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THE COASTAL SITES OF WESTERN AKARNANIA: A TOPOGRAPHICAL-HISTORICAL SURVEY

University of Pennsylvania PH.D. 1982

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THE COASTAL SITES OF WESTERN AKARNANIA: A TOPOGRAPHICAL-HISTORICAL SURVEY

WILLIAM MICHAEL MURRAY

A DISSERTATION

in

Ancient History

Presented to the Graduate Faculties of the University of Pennsylvania in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy.

1982

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Supervisor of Dissertation

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DEDICATION

To the inhabitants of western Akarnania,
whose help made this study possible.

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THE COASTAL SITES OF WESTERN AKARNANIA:
A TOPOGRAPHICAL-HISTORICAL SURVEY

TABLE OF CONTENTS

Acknowledgements.....iv

Table of Contents.....vi

Abbreviations.....xi

List of Figures.....xiii

List of Plates.....xvi

Key to the Maps and Charts Used in this Study.....xii

Abstract.....xxvi

Frontispiece.....xxviii

Introduction.....1
Notes.....11

PART I 15
THE TOPOGRAPHY AND ANCIENT REMAINS OF AKARNANIA'S WESTERN COAST

CHAPTER

I. General Remarks.....15

II. Acheloos River Delta: Its Rate of Alluviation Attested by Historical Sources.....18

III. Oiniadai.....31
The Northern Harbor Area.....32
The Southern Harbor.....43
Χώρα Οἰνιαδῶν.....46
Oiniadai to Astakos: Topographical Remarks.....48
Notes.....50

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IV. The Approaches to Astakos Bay....55
The Bay of Agios Pandeleimona....55
The Kastro at Agios Pandeleimona....57
The Settlement of Agios Pandeleimona....59
The Harbor....61
Notes....63

V. Astakos....66
The Valley....66
The Ancient City of Astakos....68
Astakos Bay and Harbor....74
Astakos to Mytikas: Topographical Remarks....76
Notes....79

VI. Alyzeia....82
The Mytikas Valley....82
Pirgos....83
Kastri....87
The Dam Below Glosses....91
Alyzeia, the City....106
Alyzeia, the Harbor....114
Alyzeia to Palairos: Topographical Remarks....121
Notes....123

VII. Palairos....134
The Valley....134
Kastri above Agios Athanasios....135
Pirgos on the Sklavaina Road....138
The Ancient City of Palairos....141
The Sanctuary atop Profitis Elias....157
The Route from Profitis Elias to Agios Nikolaos....160
Polyvoleio on Vigla....161
Kastro at Xylopigadho....163
The Harbor near Pogonia....165
Evidence for Change in Sea Level....172
Palairos to Leukas: Topographical Remarks....174
Notes....176

VIII. The Plagia Peninsula....184
Peratia....184
Kastro at Agios Georgios: Nerikos?....186
Dioryktos and Perdioricto....190
Kastri Lithies....192
Kasteli at Phagia....195
Vathy Avali....198
Sollion....200
The Watchtowers and Garrison Stations of the Plagia Peninsula....206

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Pirgos on Kotoupa.....206
Kastro on Kokkino Stephani, Trikorpho.....208
Sterna.....211
Notes.....219

IX. The Leukas Canal Area.....224
The South Mole.....226
Evidence from the South Mole for Change in Sea Level.....239
The "Isthmos" and the Navigability of the Canal.....243
The Bridge.....251
The "Ancient Mole" near Agios Ioannis.....253
Leukas to Aktion: Topographical Remarks.....254
Notes.....256

X. Aktion.....266
The Apollo Sanctuary and Neorion of Augustus.....266
The Harbors of Aktion.....271
Notes.....273

PART II 276
THE HISTORY OF AKARNANIA: A BRIEF REEVALUATION

Introductory Remarks.....276

I. Prehistory and Myth.....277
Notes.....282

II. The Effects of Korinthian Colonization.....284
Notes.....289

III. The Fifth Century and the Development of the Akarnanian League.....291
Notes.....300

IV. The Fourth Century.....304
Notes.....315

V. Post-Alexander: Kassander and the Κοινόν.....319
Notes.....324

VI. The Treaty with Aitolia and the Partitioning of Akarnania.....326
Notes.....330

VII. The Reestablishment of the Akarnanian League.....332
Notes.....338

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VIII. Relations with Rome.....341
Notes.....344

IX. The Second Makedonian and Syrian Wars.....346
Notes.....353

X. The War with Perseus and its Aftermath.....356
Notes.....365

APPENDICES

APPENDIX

A. The Winds and Weather of Western Akarnania.....369
Introduction.....369
The Tables.....379
Table 1.....381
Table 2.....387
Table 3.....388
Table 4.....389
Table 5.....390
Table 6.....391
Table 7.....392
Table 8.....393
Table 1 Correlations.....394
Interpretations of Table 1.....395
General Weather and Local Winds.....397
Local Effects: Thermally Generated Winds.....404
Thermally Generated Winds in Antiquity.....414
A Map Showing the Sea Breezes of the Western Akarnanian Littoral.....416
Notes.....418

B. Catalogue of Pottery.....426

C. Catalogue of Inscriptions.....438

D. Masonry Styles as Dating Criteria: The Evidence of the Western Coastal Sites.....444
Notes.....458

E. The Relative Rise in Sea Level along the Western Akarnanian Coast: Summary.....460

F. Korinthian-Type Pegasi from Akarnanian Mints.....464
Akarnanian Coins in Recorded Coin Hoards.....487
Notes.....489

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Index.....534

Bibliography.....542

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Abbreviations

AA	Archäologischer Anzeiger
ADM 51-3132	Log Book of HM Sloop "CHANTICLEER," 1 April - 30 September, 1882, H. Eden, Captain
ADM 51-3539	Log Book of HMS "WEAZLE," 6 September, 1825 - 5 March, 1826, R. Beaumont, Commander
ADM 51-3503	Log Book of HMS "TALBOT," June 1828, F. Spencer, Captain
ADM 53-77	Log Book of HMS "AETNA," 1 July 1829 - 8 January, 1830, S. Lashington, Captain
ADM 53-9170	Log Book of HMS "HYDRA," 30 September, 1863 - 13 August, 1864, A.L. Mansell, Captain
ADM 53-9171	Log Book of HMS "HYDRA," 14 August, 1864 - 31 July, 1865, A.L. Mansell, Captain
ADM 53-15865	Log Book of HMS "STORK," August - September, 1892
AE	Ἀρχαιολογικὴ Ἐφημερίς
AJA	American Journal of Archaeology
AM	Mitteilungen des deutschen archäologischen Instituts, Athenische Abteilung
The Athenian Agora	The Athenian Agora, Results of Excavations Conducted by the American School of Classical Studies at Athens
BCH	Bulletin de correspondance hellénique
BSA	Annual of the British School at Athens
CAH	Cambridge Ancient History
CIL	Corpus Inscriptionum Latinarum
Corinth	Corinth, Results of Excavations Conducted by the American School of Classical Studies at Athens
CQ	Classical Quarterly
Deltion	Ἀρχαιολογικὸν Δελτίον
Ergon	Τὸ Ἔργον τῆς Ἀρχαιολογικῆς Ἑταιρείας
IG	Inscriptiones Graecae
IG IX 1^2	See Bibliography s.v. Klaffenbach (1957)
Inv.	See Bibliography s.v. Thompson et al. (1973); see also p. 489 n. 1
JHS	Journal of Hellenic Studies
JRS	Journal of Roman Studies
Misc. Papers Vol. 72 (C1)	Remark Book of "EURYALUS," 1 June - 31 October, 1822, A.M. Clifford, Captain
Misc. Papers Vol. 74 (C3)	Remark Book of HMS "REDPOLE," March, 1822

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Misc. Papers Vol. 80 (C9)	Master's Remark Book, HMS "MADAGASCAR," 1830; Remark Book of HMS "ETNA," 1 July, 1829 - 8 January, 1830, S. Lashington, Captain; Ionian Islands Directions and Views (author unknown). Presented to Hydrographer of the Admiralty by W.J.F. Dessiou, March 9, 1830.
OD 256	"Greece, West Coast, Gulf of Arta," [Remark Book] by Lieutenant W.F. Cooling, 1830
OD 257	[Remark Book by] Captain Mansell, 1866
OD 258	"Dragamesti Bay," [Remark Book] by Lieutenant Smyth, 1893
PGM	Petermanns Geographische Mitteilungen
PP	La Parola del Passato
Praktika	Πρακτικὰ τῆς ἐν Ἀθήναις Ἀρχαιολογικῆς Ἑταιρείας
RE	A. Pauly and G. Wissowa, eds. Real-Encyclopädie der classischen Altertumswissenschaft
SBBerl.	Sitzungsberichte der deutschen Akademie der Wissenschaften zu Berlin, Philos.-Hist. Klasse
SBHeid.	Sitzungsberichte der Heidelberger Akademie, Philos.-Hist. Klasse
Syl. Num. Gr.	Sylloge Nummorum Graecorum
Syl. Num. Gr. DNM	Sylloge Nummorum Graecorum. Danish National Museum
TAPA	Transactions of the American Philological Association
Tod	See Bibliography s.v. Tod (1948)
Urbaedeker	Unpublished guide for the Baedeker series by G.H. Lolling. See p. 5 with n. 7.

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List of Figures

1. The Location of Akarnania Relative to Mainland Greece and the Peloponnesos.....xxviii

2. General Map of Akarnania.....13

3. The Western Akarnanian Coastal Sites Examined in this Study.....14

4. The Acheloös Delta.....19

5. Oiniadai. From Noack's 1906 survey published in Kirsten (1937 : 2217), with additions.....31

6. Oiniadai: The Northern Harbor ('A' in Fig. 5).....33

7. Oiniadai: The Northern Harbor Before 219 B.C.....38

8. Oiniadai: The Southern Harbor ('A' in Fig. 5).....44

9. Kastro at Agios Pandeleimona.....58

10. Astakos: The Ancient City.....67

11. Wind Patterns in Astakos Bay with a Strong Westerly Gradient Wind Blowing.....75

12. Kastri Above the Mytikas Valley.....87

13. The Mytikas Valley Dam in the Pass Below Glosses. Front View and Section.....92

14. Alyzeia: The Ancient City.....107

15. Submerged Docks in Mytikas Bay.....114

16. Exposed Dock Surface ('A' in Fig. 15) Submerged in Mytikas Bay. Depths in Meters.....115

17. Depth Chart: Submerged Docks in Mytikas Bay. Depths in Meters.....117

18. Northwest Akarnania: Palairos, Anaktorion, Aktion and the Plagia Peninsula. Heights in Meters.....135

19. Kastri Above Agios Athanasios.....136

20. Pirgos on the Sklavaina Road.....138

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21. Palairos: The Ancient City (Kechropoula). From Noack (1916 : Abb. 2, following col. 222).....142

22. Palairos: The Ancient City (Kechropoula). The Author's Survey.....143

23. Profitis Elias: The Hilltop Sanctuary (?).....157

24. Polyvoleio on Vigla.....162

25. Kastro at Xylopigadho.....163

26. The Harbor of Ancient Palairos Near Pogonia.....165

27. Depth Chart: The Ancient Mole Near Pogonia.....167

28. Kastri Lithies.....192

29. Kasteli at Phagia.....196

30. Vathy Avali.....198

31. Pirgos Atop Kotoupa.....207

32. Kastro on Kokkino Stephani, Trikorpho.....209

33. Sterna.....212

34. Levkas Canal Area. From BA 1609 = Chart no. 5, with additions..225

35. Leukas und Umgebung. Presented as the frontispiece to Oberhummer (1887). NB the scale is not 1:100,000 because the map has been photographically reduced.....226

36. Ancient Leukas, Nerikos (?) and the South Mole.....227

37. The Temple Area of Aktian Apollo. Champoisseau's sketch of the site in Collignon (1886 : 236).....267

38. Aktion: Shoreline Structure.....268

39. Modern Wind Rose.....372

40. Wind Rose Utilized by Aristotle and Theophrastos.....374

41. Normal Sea Level Pressure for March. From Great Britain, Meteorological Office, General Meteorology, Vol. I^2 of Weather in the Mediterranean (London, 1962), fig. 9, p.62.....398

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42. Normal Sea Level Pressure for April. From General Meteorology, fig. 10, p. 63.....399

43. Normal Sea Level Pressure for August. From General Meteorology, fig. 14, p. 67.....400

44. Normal Sea Level Pressure for No ber. From General Meteorology, fig. 1.17, p. 70.....402

45. Normal Sea Level Pressure for December. From General Meteorology, fig. 1.18, p. 71.....403

46. Mean Monthly Frequency Values for Winds at Leukas. Calms not Included. From Bornova (1964 : Εἰκ. 4, p. 15).....405

47. Barograph of Pressure Changes at Sea Level Between 21 May, 1979 and 28 May, 1979 Along the Western Coast of Akarnania.....409

48. A Map Showing the Sea Breezes of the Western Akarnanian Littoral.....417

49. Profiles of nos. 1-5, Catalogue of Pottery.....525

50. Profiles of nos. 6-11, Catalogue of Pottery.....526

51. Profiles of nos. 12-15, 24-26, 39, Catalogue of Pottery.....527

52. Profiles of nos. 16-18, 27, Catalogue of Pottery.....528

53. Profiles of nos. 20-23, Catalogue of Pottery.....529

54. Profiles of nos. 30-36, Catalogue of Pottery.....530

55. Profiles of nos. 37-38, 40-44, Catalogue of Pottery.....531

56. Profiles of nos. 45, 48, 50, Catalogue of Pottery.....532

57. Profiles of nos. 19, 46-47, 49, Catalogue of Pottery.....533

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List of Plates

1. Oiniadai (cf. Fig. 6).....494
   A. Tower 1 from the east.
   B. Tower 1 from the south.
   C. Tower 1 from tower 2 (wide angle lens).
   D. Tower 2 from tower 1.
   E. Northern face of tower 1 showing portion of earlier masonry.
   F. Tower 1 from the southwest.

2. Oiniadai (cf. Fig. 6).....495
   A. Archer's slit in the north wall of tower 1. View from the interior. NB the reused block with the bottom of an archer's slit cut into it directly above the functional slit.
   B. The curtain wall directly north of tower 1. The arrow points to the original pre-219 B.C. corner.
   C. The jog southwest of tower 1. NB the ashlar masonry.
   D. Reused blocks atop the jog shown in Pl. 2.C.
   E. Gate "H" the main arched gate of the harbor fortress. From the interior.
   F. The blocking walls "C" at the entrance to the northern harbor. From the northeast.

3. Oiniadai (cf. Fig. 6).....496
   A. The landing at "F" outside the wall north of the temple area. From the north. NB the gate through the wall directly above the steps.
   B. The landing at "B." From the temple area. NB the rough polygonal retaining wall in the right center and the landing at left center with the person standing on it.

   Agios Pandeleimona (cf. Fig. 9).
   C. Walls at the beach below the Kastro ("C" in Fig. 9). From the west.
   D. The two walls indicated by the arrows in Pl. 3.C. From the west.
   E. Tower 2 from the east.
   F. Section of wall south of the breakdown between towers 3 and 4.
   G. Setting of the Kastro atop Hill 55 (black arrow). The position of the beach (cf. Pl. 3.C) is indicated by the white arrow.

4. Agios Pandeleimona (cf. Fig. 9).....497
   A. Coursing of wall south of tower 4.
   B. The curved corner northeast of tower 3. From the northeast. NB the drain through the wall, right center.
   C. The top preserved course of the wall from above showing the bond of the western side of tower 3 with the circuit wall.

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4. (cont.)
Astakos (cf. Fig. 10).
D. View of the plateau on which sits the ancient city. From the northeast in the valley below the site. NB the sheer cliff face.

5. Astakos (cf. Fig. 10).....498
A. Tower 1 from the northeast.
B. Coursing of circuit wall between towers 2 and 3. From the south.
C. Masonry of interior face of wall north of gate 12. The rubble and cement walls are part of the medieval fortifications.
D. The "shaved off" nature of the circuit. View from tower 3 toward tower 2.
E. Typical arrangement of swallow-tailed wooden clamps in the side walls of the towers. These clamps are in the north wall of tower 15.

6. Astakos (cf. Fig. 10).....499
A. Large clamp cuttings (for wooden clamps?) in the foundations of tower 4 at its southeast corner. The southwest corner has similar cuttings. 0.5 m showing on the tape.
B. Partially cracked portion of the road which once led from "B" to "C" (Fig. 10). Looking west.
C. The rectangular slot cut in the cliff face at "C."
D. View toward the south along the eastern cliff of the city site. NB the two wall blocks in the foreground.

7. Pirgos (Fig. 3, site 5).....500
A. View southeast toward Pirgos from the pass leading into the Mytikas Valley.
B. Pirgos from the west. NB the cornice blocks, the cutting for the roof support beam and the lintel projecting from the southwest wall.
C. Pirgos from the northwest.

Kastri (cf. Fig. 11).
D. Gate 1 from the south.
E. Gate 1 from the northeast. The arrow points to the relief of Herakles on the gate's interior.

8. Kastri (cf. Fig. 11).....501
A. Gate 2 from the south.
B. Masonry of the circuit wall's interior face northwest of the fort's eastern corner.
C,D. The jog south of the cistern. NB the integral change in masonry from polygonal to coursed trapezoidal.
E. The carved relief located at "a."

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9. The Dam Below Glosses. From the East.....502
NB the person standing on the modern wall over the sluice gate area on the upper right side of the dam.

10. The Dam Below Glosses.....503
A. The dam from the northeast. The sluice cutting with the modern wall built across it is in the right foreground. NB the modern PVC (polyvinylchloride) pipe in the rock-cut water channel at the far side of the dam.
B. The stump of an arch for the aqueduct located down the remma from the dam.
C. The dam from the east. The photo was taken from the water channel. NB the person in the upper left of the photo.
D. The lime plaster patch on the northwest side of the dam.
E. The line of plaster and small stones along the top of the fourth course. Looking toward the southeast from the 'island' of earth against the dam's face.

11. The Dam Below Glosses.....504
A. The dam from the east. NB the aqueduct leading to the mill running from the center of the photo.
B. The mill from the southwest.

Alyzeia (cf. Fig. 14).
C. Circuit wall between tower 15 (denoted by the arrow) and tower 16. From the east.
D. The western wall from the akropolis (denoted by the arrow) to tower 21. From the east.

12. Alyzeia (cf. Fig. 14).....505
A. Tower 15 from the circuit wall. Looking northeast. NB the five steps leading from the top of the circuit wall up to the tower.
B. Polygonal masonry of the circuit between towers 14 and 15. From the northwest.
C. Polygonal masonry of the circuit between towers 15 and 16. NB the three parapet blocks in situ. From the northeast.
D. The wall south of tower 16. From the west.
E. Tower 18 from the northeast. NB the parapet blocks in situ atop the tower.
F. The foundations of a substantial building located near "A." From the north.

13. Alyzeia (cf. Fig. 14).....506
A,B. Evidence of quarrying at "A."
C. The circuit wall in the valley between tower 18 and the akropolis. From the northeast.
D. Tower 20 from the east.
E. The circuit wall from tower 20. Looking toward the north.
F. Masonry of the circuit wall between towers 11 and 12.

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14. Alyzeia (cf. Fig. 14).....507
A. One half of a swallow-tailed wooden clamp cutting in the northeast corner of tower 20.
B. Cover slab of a partially robbed out grave west of the gate at tower 19.

Kastri Above Agios Athanasios (cf. Fig. 19).
C. From the northeast. NB the person standing on the wall.

Pirgos on the Sklavaina Road (cf. Fig. 20).
D. From the northwest. NB the polygonal retaining wall in the foreground, and Kastri atop the mountain behind Pirgos (denoted by an arrow).

15. Ancient Palairos (cf. Fig. 22).....508
A. The ancient city from the peak of Profitis Elias.
B. Gate 1 (upper right) from the southeast.
C. The eastern proteichisma from the northeast.
D. Gate 3 from the northeast.

16. Ancient Palairos (cf. Fig. 22).....509
A. The western wall from the gate 2 terrace.
B. The western wall south of tower "C." Looking toward the southeast. NB the Palairos Valley in the background.
C. Tower "C" from the southwest. NB the polygonal masonry in the tower's southern face.
D. Gate 5 from the east. NB the similarity with the gate in the harbor fortress at Oiniadai (cf. Pl. 2.E).
E. The two large cisterns west of gate 6. Looking toward gate 5.

17. Ancient Palairos (cf. Fig. 22).....510
A. The interior of the north wall. Looking toward tower "C." NB the breakdown of the regular coursing of the masonry.
B. The snake relief southwest of tower "C." 0.5 m shows on the tape.
C. The north wall from the akropolis spine. Looking west.
D. The eastern bastion. From the southeast.
D. The cistern area on the akropolis. From the southeast.

18. Profitis Elias (cf. Fig. 23). and Polyvoleio (cf. Fig. 24).....511
A. Area "c" from the southeast.
B. Polyvoleio on Vigla from the west.
C. Column drums built into the northeast wall of a ruined chapel at "d."
D. The northern end of the platform at "a" (cf. Fig. 23). From the south.

19. The Harbor of Ancient Palairos (Fig. 26).....512
A. The harbor from the west. NB the rough outline of the mole under the water in the center foreground of the photo.

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19. (cont.)
Kastri Lithies (cf. Fig. 28).
B. Kastri from the southwest.
C. The location of Kastri Lithies as seen from the next ridge to the southeast.
D. Kastri Lithies from the north.

20. Kasteli at Phagia (cf. Fig. 29).....513
A. Kasteli from the east.
B. The finished corner at "a." From the northwest.
C. Looking northwest from Kasteli through the grove of vilandies (oaks).
D. The flat terrain of Phagia. Looking west from a point about 500 m northeast of Kasteli.

21. Pirgos Atop Kotoupa (cf. Fig. 31).....514
A. Pirgos from the southwest along the rocky ridge. The fortress is located at the end of the rocky ridge.
B. Pirgos from the southwest.
C. The view toward the Leukas Canal area.

22. Kastro on Kokkino Stephani, Trikorpho (cf. Fig. 32).....515
A. The view from Kastro looking toward the northeast. The arrow points to the akropolis of ancient Palairos.
B. The steps at the northeast corner of the Kastro. From the west.
C. View looking west over the Kastro toward the Leukas Canal area (not visible).
D. View from the south wall across areas "a" (in the foreground) and "b." The arrow points to the steps.

23. Sterna (cf. Fig. 33).....516
A. View along the crosswall from the western tower toward "b."
B. The gate at "a." From the southwest.
C. The lower fortress from the eastern side of the crosswall.
D. Area "b" from the west. NB the three lines of blocks.
E. The area of the small cistern from the rocky outcrop to the east. NB the clear view of the canal area in the background.

24. Sterna (cf. Fig. 33).....517
A. The large cistern from the southwest.

Leukas Canal Area (cf. Fig. 34).
B. The area of the South Mole. From the Venetian fortress Agios Georgios. The arrows mark the two buoys (cf. Fig. 34).
C. The canal area from the fortress of Agios Georgios. Looking northwest.

25. Photographs of nos. 1-11, Catalogue of Pottery.....518

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26. Photographs of nos. 16-19, Catalogue of Pottery.....519

27. Photographs of nos. 30-44, Catalogue of Pottery.....520

28. Photographs of nos. 27-29, 46-47, 51, Catalogue of Pottery.....521

29. Photographs of nos. 45, 48-50, Catalogue of Pottery.....522

30. Photographs of nos. 1-2, Catalogue of Inscriptions.....523

31. Photographs of nos. 3-4, 6-7, Catalogue of Inscriptions.....524

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Key to the Maps and Charts Used in this Study

Notes: Charts which appear without the prefix BA or US are unpublished manuscript charts. The above list represents the maps and charts that I used for this study. A more complete listing of maps and charts of Greece (to 1944) is found in Great Britain (1944 : I,397-415). Since the publication of this list, the extensive mapping of Greece has been undertaken by the Greek Army, using aerial photography. Four different series of maps have been prepared (1:5,000; 1:15,000; 1:25,000; 1:50,000) but are not generally available to the public.

Key:
- 1 : my reference number
- 2 : other reference number (repository reference number)
- 3 : date of survey
- 4 : person in charge of survey (if known)
- 5 : title of chart or map
- 6 : repository (A: Map Collection of the American School of Classical Studies at Athens; BM: Map Room of the British Museum; G: Archives of the National Maritime Museum, Greenwich; T: Archives of the British Admiralty, Taunton, Somerset; *: currently available for purchase)
- BA: British Admiralty chart
- US: chart of the US Defense Mapping Agency Hydrographic Center

The Scales of Maps 1-21:

1 = 1:77,165 (approx.)	12 = 1:51,040
2 = 1:73,100 (approx.)	13 = 1:3,965
3 = 1:345	14 = 1:154,000
4 = 1:127,725	15 = 1:11,100
5 = 1:29,250	16 = 1:91,080
6 = 1:29,165	17 = 1:50,000
7 = 1:51,040 (approx.)	18 = 1:25,000
8 = 1:112,240 (approx.)	19 = 1:50,000
9 = 1:10,580	20 = 1:200,000
10 = 1:9,100	21 = 1:100,000
11 = 1:18,190	

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1	2	3	4	5	6
1	BA 1623 L 1498/3 Med. Folio 2	1819?	Capt. W.H. Smyth HMS "AID"	Bay of Drago- mestre	BM T
2	H 366 Med. Folio 2 L 1498 Med. Folio 2	1819? (before?) 1819?	Capt. W.H. Smyth	Plan of the North Anchorages of Santa Maura	T
3	BA 1701	1844	H.A. Moriarty Master, HMS "MEDEA"	Santa Maura Mole	G
4	BA 208	1830	Lieut. W.F. Cooling?	Gulf of Arta	G
5	BA 1609	1864 (corrected to 1977)	J. Millard 2nd Master HMS "HYDRA"	Ormos Levkadhos and Ormos Dhrepanou	*
6	D 8032 Shelf Sw	1864	Capt. Mansell HMS "HYDRA"	Santa Maura, Plan of the Roadstead and Port Alexandro	T
7	D 8444 Shelf Sw (manuscript of BA 1676)	1865	Capt. Mansell HMS "HYDRA"	A Plan of Part of the Coast of Albania between Dragamesti and Oxia	T
8	BA 1676	1865 (published to 1866; corr. 1883; 1892)	Capt. Mansell HMS "HYDRA"	Gulf of Patras	BM *
9	BA 1676 inset	1879 (on 1892 ed.)	B.F. Clark HMS "FALCON"	Port Pandelemona	BM
10	BA 1455	1892	Lieut. M.H. Smyth HMS "STORK"	Ports Plateali and Pandelemona	BM

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1	2	3	4	5	6
11	BA 1939	1892 (corr. to 1909)	Lieut. M.H. Smyth HMS "STORK"	Dragamesti Bay and Approaches	G
	BA 1939	1892 (corr. to 1980)	Lieut. M.H. Smyth HMS "STORK"	Ormos Astakou and Approaches	*
12	BA 3496	1904 (corr. to 1979)	Cmdr. F.C. Learmouth HMS "GOLDFINCH"	Skrofa Pt. to Cape Kamilafka	*
13	B 9290 Shelf 16r	1904	Lieut. S.H.J. Aylmer HMS "LEANDER"	Canal Santa Maura Road to Port Drepano	T
14	BA 203	1864 (corr. to 1904, 1920)	Capt. Mansell HMS "HYDRA" (corr. by BA 3496 and Greek survey, 1920)	Anti Paxos Is. to Cape Glarenza	*
15	BA 1609	1953 (corr. to 1977)	From Greek naval surveys	Dhiorix Levkadhos	*
16	US 54287	5th ed., 1975	From Greek survey of 1936 and BA 1676	Patraikos Kolpos and Approaches	*
17	US 54283	1977 (2nd ed.)	From Greek surveys to 1920 with additions to 1954	Amvrakikos Kolpos	*
18	US 54280	1975 (8th ed.)	From Greek charts to 1962	Corfu Channel to Nisis Proti	*
19	US 4088 later eds. US 54284	1958 (1st ed.)	From BA 3496 with additions from a Greek chart of 1953	Akra Kamilafka to Akra Oxia	

Chart 19 is currently out of print; I obtained a copy from the ship's stores of the "CYNTHIA R," owned by R.S. Carter.

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1	2	3	4	5	6
20	Nome Map: Ethniki Statistiki Yperisia tis Ellados	1972	From survey 1961 (corr. 1962)	Nomos Aitolias kai Akarnanias	*
21	British Staff Map	1941	See Notes above	Sheet I.4: Ekhinadhes; Sheet I.5: Mesolonghion; Sheet T.4: Preveza	A

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ABSTRACT
THE COASTAL SITES OF WESTERN AKARNANIA:
A TOPOGRAPHICAL-HISTORICAL SURVEY
WILLIAM MICHAEL MURRAY
A.J. Graham, N.G.L. Hammond, J.D. Muhly

This dissertation attempts to reconstruct the history of the coastal sites of western Akarnania, an area which has never been systematically explored, and therefore, only peripherally included in previous studies of Akarnanian history. Part I presents more than 25 sites both on land and under water which are fully described and recorded with photographs, site plans, and analyses of diagnostic surface pottery and epigraphical finds. Special attention is paid to underwater sites in order to compute the change in sea level relative to the land since antiquity. Part II integrates this material into the body of evidence provided by our ancient literary and epigraphical record in an attempt to reconstruct the history of western Akarnania and also to reevaluate briefly the accepted versions of Akarnanian history. Problems concerned with the ancient sailing route off Akarnania's western coast, Akarnania's silver coinage, masonry styles of Akarnanian fortifications as dating criteria, and evidence for change in sea level are discussed in separate appendices.

Little is known of Akarnania before the age of Korinthian colonization, a fact probably due to the sparse settlement of Akarnania during the Bronze Age. Although the major city sites were inhabited by the sixth and fifth centuries, relatively large scale building projects were not undertaken until an economic boom provided the necessary capital during the mid-fourth and third centuries. Nevertheless, prior to this

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period of prosperity, sufficient contact with Korinth's colonies seems to have resulted in the development of the polis as a form of government long before it appeared in either Epiros or Aitolia. It was not until this mid-fourth to third century period of prosperity, however, that the Akarnanian poleis attained their full potential. This period saw the extension of city circuits, the erection of signal towers, garrison posts, private strongholds against pirate attacks and the building of permanent harbor moles and docks. The harbors of this coast offered important anchorages on the route from Greece to Italy when the Leukas strait was navigable because a thin band of thermally generated wind enabled vessels to sail against the prevailing northwesterlies if they remained close to the Akarnanian shore. This period of prosperity was seemingly unaffected by the partitioning of Akarnania between Epiros and Aitolia in the mid-third century, but it was destroyed by the period of turmoil following Rome's defeat of Makedonia and the Achaian League. At the founding of Nikopolis in 30, the cities of this coast were only sparsely populated and many inhabitants chose to migrate to the new city in search of work. Akarnania was left depopulated and forgotten.

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Fig. 1

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INTRODUCTION

The ancient state of Akarnania comprises a small and relatively unknown corner of the Greek mainland. Measuring only some 1600 square kilometers, Akarnania has the appearance of being a triangular shaped extension of Aitolia.[1] Its northern and western borders were relatively fixed in antiquity--the Ambrakian Gulf and the Ionian Sea--but its border with Aitolia to the east was less static. In theory, it ran up the Acheloos River to Stratos, then jogged northwestward to modern Lake Amvrakia and then continued northward to modern Amphilochia (ancient Limnaia). The territory thus bounded comprised the shadowy and largely frightening borderland of Odysseus' realm; it presented a dark and distant coast which met the searching eyes of the first westward bound colonists; it served (with other areas of the northwest) as a stage where the expanding interests of Athens competed with those established long before by Korinth; it witnessed the growth and felt the rule of the kingdoms of Makedonia, Epiros and the Aitolian League; it watched the "cloud building in the west" and withstood the first four onslaughts of Roman might; until at last, depopulated and barren, it was stripped of its political identity and largely forgotten. Such is our knowledge of this territory--broad brush strokes on an otherwise bare canvas.

The main outlines of Akarnanian history are known, yet the charac-

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ter of the people who lived here, the nature and development of their political institutions, and the role they played in the larger realm of Greek historical development are matters which have been insufficiently evaluated. In short, many misleading and plainly false statements have been written about Akarnania, a situation largely due to the fact that there are few easily available studies which deal with Akarnania in a comprehensive manner. The still fundamental book on Akarnanian history by Eugen Oberhummer, Akarnanien, Ambrakia, Amphilochien, Leukas im Altertum (München 1887), is difficult to obtain in this country and, composed nearly a century ago, the book is in need of revision. A similar situation prevails for Léon Heuzey's comprehensive topographical study, Le Mont Olympe et l'Acarnanie (Paris 1860), and for F. Imhoof-Blumer's study of Akarnanian coinage, "Die Münzen Akarnaniens," Numismatische Zeitschrift 10 (1878) 1-180. If the general picture of Akarnanian history is inadequate,[2] then it stands to reason that the history of the individual cities of its western coast is even less well established. This is partly due to the west coast's twofold inaccessibility by land and by sea. When the Leukas Canal was unnavigable (as had been the case for centuries before 1902), the normally used shipping lane shifted away from Akarnania's coast to the offshore islands. And it only takes one brief look at the map to realize that this coast does not lie astride any easily traveled land route. The want of topographical and archaeological detail concerning these western settlements is therefore particularly acute. It is thus not surprising that the evaluation of the communities here and the roles ascribed to them in

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the course of Greek history have been determined from the wrong type of evidence, i.e., conclusions based on theories formulated from non-Akarnanian data. In other words, our picture of the πόλεις here -- Oiniadai, Astakos, Alyzeia, Palairos, Leukas and Anaktorion/Aktion -- has been strongly influenced by a handful of theories concocted to explain extra-Akarnanian phenomena. For example, one theory once very popular among numismatists held that Korinth dotted the western coast of Akarnania with colonies, that she struggled with Athens here for control of these places, and that after the Peloponnesian War, managed to reassert her political control. It is a theory simply unsupported by the facts, yet necessitated by a need to explain the adoption of Korinthian-type coinage by the Akarnanian communities in the fourth century.[3] Here is but one example why the evidence for constructing a picture of these πόλεις must be examined on its own merit and without reference to theories developed to explain the historical developments of Korinth, Aitolia or Epiros. Only then can a true picture begin to emerge of this little known state of western Greece.

In order to recover the history of such a poorly known place, diverse types of evidence must be considered. First and foremost, the topographical settings of these western communities along with their preserved antiquities must be thoroughly examined. Since it is impossible to consider the subject of Akarnanian topography without acknowledging those scholars whose research forms the basis of our present knowledge, it seems appropriate now to review the work of the principal investigators of Akarnania and its antiquities.

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The first major contribution to the modern study of Akarnanian topography was made by Colonel William Martin Leake, who used his position as a liaison officer between Great Britain and the Porte to examine the antiquities and landscape of northern Greece in the early years of the nineteenth century.[4] His basic trip through Akarnania occurred in the spring of 1809 and he managed to visit Oiniadai and Astakos (he sailed by Agios Pandeleimona), but was unable to visit Alyzeia or ancient Palairos because the area was held by Kleftes. Three years previously, he had visited the Leukas canal area. As our earliest account of modern Akarnania, Leake's diary entries (which is essentially the format of his work) provide invaluable observations, not only of the antiquities of this region, but also of its flora, fauna and inhabitants in the early nineteenth century. Leake was the first to locate and identify correctly the sites of Oiniadai, Astakos, Alyzeia, Aktion and Anaktorion, and to address the problems posed by the topography of the shallows between Leukas and the mainland.[5]

The next basic increase in our knowledge came from the researches of Léon Heuzey who wrote a still fundamental topographical-archaeological study of Akarnania in the 1850's.[6] Heuzey systematically examined all the antiquities known to him in Akarnania and completed the identification process begun by Leake. It is from Heuzey and Leake that we still derive our basic descriptions of Agios Pandeleimona, Astakos and Alyzeia.

In 1887, Oberhummer's definitive history of Akarnania was published. The work is a masterful piece of scholarship which distills

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the observations of previous travelers and topographers into history, but it presents no new raw data from the western coastal sites. About this same time, G.H. Lolling was working on a manuscript to be published as a guide in the Baedeker series; but due to its length and thoroughness, it was deemed impractical for final publication. Professor Eugene Vanderpool kindly drew my attention to this work, a copy of which is held by the German Archaeological Institute in Athens.[7] Lolling essentially visited the sites published by Heuzey and added some new observations of his own. It was the detailed descriptions of his journey, made in 1878 largely on horseback, which I found helpful in providing a good picture of the natural routes available for use between the western coastal sites of Akarnania.

During the second two decades of the twentieth century, a rather remarkable Greek scholar and archaeologist named K.A. Rhomaios worked in Akarnania. His topographical observations, descriptions of fortifications and excavations at Alyzeia and Anaktorion added to our knowledge of Astakos, the environs of Oiniadai, Alyzeia, Palairos, Anaktorion and especially the Plagia Peninsula.[8] Rhomaios was particularly good at tracking down new sites in the back country, but he had insufficient time (or desire) to photograph, sketch or map the remains he found.[9] We may know from Rhomaios that a fortress exists somewhere, but without sketches, plans or photographs, his brief descriptions leave an often confused impression of the sites.

The German scholar E. Noack sought to remedy this lack of specific detail and began the task of mapping the fortresses and cities of Akar-

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nania, but his efforts only yielded three published plans of interest to our topic -- a general plan of Oiniadai, a plan of the Harbor Fortress at the same site, and a plan of ancient Palairos; they are all of excellent quality.[10]

Another German scholar, Alfred Philippson, began a geographical study of northwest Greece in the 1930's, but his work was not published until after his death, when it was expanded by his former student Ernst Kirsten.[11] The descriptions of Akarnanian geology and geography are excellent but Kirsten's discussions of Akarnanian settlement patterns and their effects on, or reactions to, Akarnanian historical development are based on incomplete and misinterpreted evidence. These matters will be discussed later, but for our purposes now, this book adds little to our knowledge of the physical remains of the western coastal sites. In two separate RE articles, Kirsten has fully described the remains at ancient Palairos and at Oiniadai and has presented the appropriate surveys made by Noack. Yet for all the pages he has published concerning Akarnania, not one plan or photo of Astakos, Agios Pandeleimona or Alyzeia has appeared. Likewise, no plans or lengthy descriptions have appeared to elucidate the remains of the Plagia Peninsula.

At about the same time as Kirsten was working in Akarnania, Günther Klaffenbach began to search for and collect all Akarnanian inscriptions. His remarks concerning his trips are interesting, but aside from a few comments here and there, his brief reports also add little to our knowledge of the western sites.[12]

The above discussion was not intended to enumerate every traveler

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who passed through Akarnania, nor every author who has written about Akarnanian antiquities, but rather to indicate the general state of our knowledge and how it has developed. It is surprising that, although a number of topographers have traveled through this area recording its antiquities, there is still a noticeable lacuna in our knowledge of the coastal sites of Agios Pandeleimona, Astakos, Alyzeia and the Plagia Peninsula. Furthermore, there are no published photographs from these sites and no site plans. Kirsten's historical arguments for dating the stone circuits of Akarnania have never been tested by examination,[13] and finally, no one has ever looked beyond the shoreline for the harbors of the cities cited here.

Largely to rectify the shortcomings noted above, I devised and carried out the following topographical survey of the coastal sites of western Akarnania. I hoped that the evidence thereby provided would enable me (and others) to reevaluate soberly the accepted interpretations of Akarnanian history, at least as concerns the sites of the western coast.

A few words should be said concerning my methodology. Because I was dealing with so large an area (over 80 km as the crow flies from Aktion to the Acheloos delta) an intensive survey was considered impractical. My goals therefore, were threefold: 1) to document more fully the sites already noted in the literature, 2) to record all new sites known by the local inhabitants and 3) to record all underwater remains to the depth of about eight meters (the depth to which I can easily free dive, i.e., without SCUBA equipment, and remain long enough to work

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effectively).

Each site was mapped with a Brunton pocket transit and a thirty meter tape. On the map thus created, certain features of the fortification walls were noted -- use of clamps, existence of drafting, the presence of transverse bonds between the wall's outer and inner faces, changes in masonry styles, stretches where the wall was not preserved and evidence for on the site quarrying of wall blocks. Many sections of the wall were photographed and the position and direction of each camera 'view' were noted on the plan. All find spots of diagnostic pottery, coins, inscriptions, and large concentrations of sherds and roof-tile fragments were noted on the plan as well. Diagnostic pottery was sketched and photographed only if it provided evidence for the occupation of a site not previously attested by literary and inscriptional evidence, or if it was an identifiable import (such as a stamped amphora handle).

Sites under water were plotted onto an appropriate scaled survey made of the adjacent beach. Floats were then placed over selected points of the submerged structure and bearings shot from four or five designated positions along the beach to locate it on the plan. Further details were added to this outline from measurements taken in the water. Diagnostic pottery associated with the structure was roughly located on the plan, brought to the shore, sketched, photographed and returned to the find spots. Depths were recorded for all submerged structures by means of a lead line marked with quarter meter intervals; all depth measurements were taken by myself while in the water to insure the

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greatest possible accuracy. Special care was taken to measure accurately all in situ mole and dock surfaces. Rough depth profiles were made for the mole near Pogonia (Palairos' ancient harbor) and for the mole at Leukas to provide a rough idea of each mole's overall shape and volume, and to allow its observable mass to be computed.

The sequence determining the order in which the 25 following sites are discussed is dictated by a south to north progression. There is nothing significant in this; it was simply the natural sequence to follow for one coming from Athens, normally my point of origin. My normal procedure here is to present my general observations of the plain or valley in which a major site is located and then proceed toward the city from the south or east along natural routes describing the antiquities that are encountered along the way. After describing the city and then its harbor, I then continue along natural routes to the next valley, again describing the antiquities encountered along the way. The ordering of sites located in the Plagia Peninsula is somewhat different; since this is described fully at the appropriate section in the text, it need not be repeated here.

Concerning my transliteration of Greek into the Latin alphabet, I have tried to preserve the Greek spelling as often as possible. Such a system, however, can never hope to be consistent because it would render some recognizable names into strange forms. Therefore, certain commonly accepted forms, such as Thucydides, Athens, Syracuse and Sicily, have been retained. For the Greek city Korinth, I have chosen to preserve the Greek "k" but not the ending "-os" for the sake of

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clarity. Although such a system has its drawbacks (for example -- when a latinized suffix is placed on a Greek root form -- Ambrakian Gulf for Ambrakikos Gulf, Mykenaian for Mykenaikos, etc.), it was considered preferable to achieving consistency by latinizing all the forms. This would have proved entirely unacceptable in the case of modern Greek place names. Therefore, most Greek forms have been retained. The abbreviations utilized in the notes to refer to Greek and Latin sources are those established by the editors of The Oxford Classical Dictionary, second edition.

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Notes to Introduction

[1] Oberhummer (1887 : 4 and n. 4).

[2] In all of Rostovtzeff's great work (1941 : 3 vols.), Akarnania is mentioned in a grand total of seven sentences.

[3] See Babelon (1932 : 1-12, esp. col. 10); Weil (1880 : 121) who lists the Korinthian colonies as Anaktorion, Leukas, Sollion and Alyzeia; Hirschfeld (1893 : 1151) who includes Alyzeia, Astakos, Sollion, Palairos, Anaktorion and Thyrreion among the early Korinthian settlements; E. Kirsten (1940 : 307) who believes that Alyzeia and Astakos were Korinthian colonies; and Busolt (1926 : 1461 ff.). Although today it has been tacitly accepted that Alyzeia and other western sites were not officially Korinthian settlements, they are still included in some discussions of Korinth's fourth century coinage as "Colonies of Corinth," or "dependencies" of Korinth; see Kraay (1969 : 53 ff.) and Talbert (1971 : 59). For a more sober discussion of this fourth century phenomenon in Korinthian coinage, cf. Graham (1964 : 121 ff.) and my Appendix F.

[4] Leake (1835 : 4 vols.); sections dealing with Akarnania occur in volumes I, III and IV.

[5] See the text at the appropriate sections for the full references to Leake's and other topographers' works.

[6] Heuzey's work (1860) was written in two parts; it is the second part, written in 1856 (pp. 223-463 and 490-96) which deals with Akarnania.

[7] This work exists today in two copies. Apparently, only one copy was printed before the project was stopped, thus, the copy held by the German Institute is composed of 8 X 10 photographic prints of this printed original. A convention has been established among German scholars to refer to this work as the Urbaedeker; I will adhere to this practice in referring to this work.

[8] See the Bibliography for a listing of Rhomaios' publications germane to western Akarnania.

[9] See Rhomaios (1918 : 106) where he freely admits this fact.

[10] See Kirsten (1937 : 2206) for a reference to Noack's unpublished manuscript concerning the "Akarnanischen Bürgen;" I have unfortunately been unable to see this work. Noack's researches at Palairos and brief references to other sites discussed in this present study are published as the "Winckelmannsitzung vom 9. Dezember 1916;" see Noack (1916 : 215-40).

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[11] Philippson and Kirsten (1958); Kirsten's particular theories are expounded in notes to Philippson's text and in two appendices: "Natürliche und politische Grenzen " (pp. 558-600), and "Das Siedlungsbild im Wandel der Zeiten" (pp. 600-26).

[12] Klaffenbach's purpose was not to provide a topographical survey, but rather to collect and publish inscriptions; for his trip, see Klaffenbach (1935 : 691-723).

[13] This theory is expounded in the appendix entitled "Das Siedlungsbild im Wandel der Zeiten," Philippson and Kirsten (1958 : 600-26); see n. 11.

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Fig. 2

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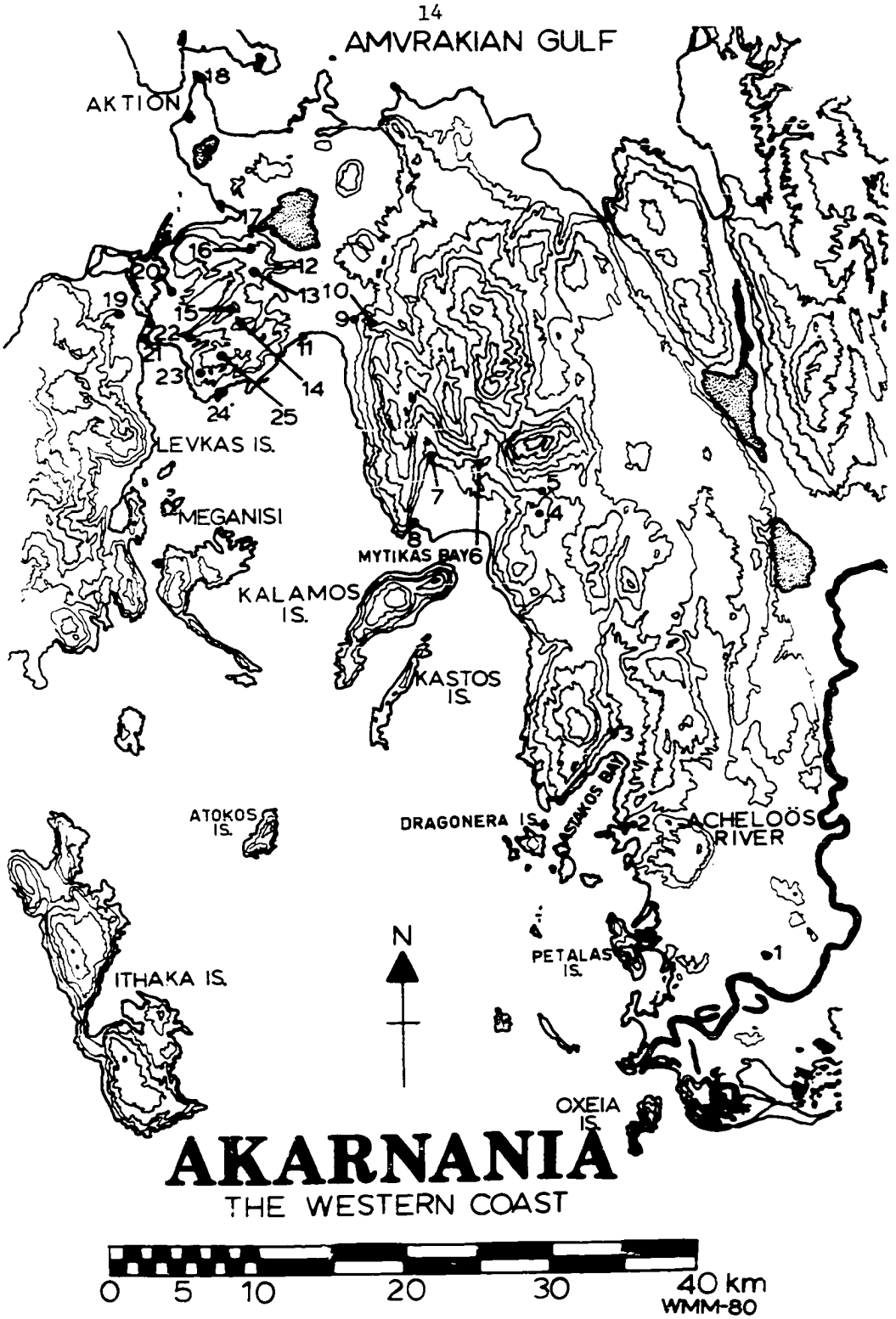

Fig. 3

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PART I

THE TOPOGRAPHY AND ANCIENT REMAINS OF AKARNANIA'S WESTERN COAST
(Cf. Fig. 2)

CHAPTER I

General Remarks

The western coast of Akarnania stretches from the mouth of the Acheloos River to Cape Aktion at the entrance to the Ambrakian Gulf. The distance between these two limits measures about 80 km in a straight line, but the actual length of the shoreline is, of course, much longer. This coastline comprises a number of different topographical sectors which have, to some extent, determined the varying fortunes of the coastal poleis located here.

In the south is a broad coastal region formed by the floodplain of the Acheloos River. Although this floodplain, the lower παραχελῳῖτις, was less extensive in antiquity, it was rich, productive land and a constant object of dispute between the Akarnanians and the Aitolians, who, at various times in their history, both laid claims to the lands of the delta. Oiniadai, the major polis controlling the west bank of the river delta, was, at times, controlled by Akarnanians, and at other times, by Aitolians.

From here, the coast stretches in a general north-northwesterly

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direction to the Plagia Peninsula which is situated due east of the strait between the island of Leukas and the Akarnanian shore. Differing markedly from the low swampy shoreline of the river delta, this section of coast is bold and steep-to. The major geological features here are determined by the limestone ridges of the interior (technically part of the Pindus mountains) which run north-northwest and south-southeast. At three places this general trend is cut into by substantial valleys resulting in three large embayments. From south to north, these are the bays of Astakos, Mytikas and Palairos. At the head of each bay an alluvial plain stretches inland, thereby providing access to the interior, and farmland for the inhabitants of the single polis which occupied each valley.

The area of the Leukas straits is composed of a shallow lagoon with extensive mud flats. A shipping canal has been cut through the lagoon in modern times and frequent dredgings are needed to insure its navigability. In antiquity, the canal area served as the site of the Korinthian colony Leukas. East of this area lies the Plagia Peninsula, technically separate from the limestone ridges of central Akarnania, but since it hinders east-west communications between the coastal districts here, it functions as a part of the central mountain mass and therefore must be included with it topographically, if not geologically.

North of the Plagia Peninsula, the coast becomes less bold and the offshore waters become shallow. The shore recedes to form the shallow bay of Agios Nikolaos, and further north toward Cape Aktion and the entrance to the Ambrakian Gulf, it gives way to marshland.

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Here was located the sanctuary of Aktian Apollo and the harbors of Anaktorion, another Korinthian colony located almost 10 km eastward from the cape.

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CHAPTER II

The Acheloos River Delta: Its Rate of Alluviation Attested by Historical Sources (Cf. Fig. 4)

Useful Maps and Charts: 8; 14; 16; 20; 21, I.4,5; Philippson and Kirsten (1958 : 691); for the complete list of maps and charts used in this study and for the key to the reference numbers, see pp. xxii-xv.

Greece's largest river, the Acheloos, empties into the sea at the northwest entrance to the Patraic Gulf. As with all major rivers, an alluvial delta has been formed at its mouth and as a result, the coastline of today is further advanced toward the west than it was in antiquity, i.e., it has extended itself outward into the sea. Even so, the ancient floodplain of the river, the lower παραχελῶτις, was valuable, rich farmland and its control was always a matter of contention between the Akarnanians and the Aitolians.[1] Oiniadai, the major polis of the lower παραχελῶτις, served as the base of operations for both peoples in the course of its historical development.

During the 1960's, this whole region was drained and its appearance today is quite different from that it exhibited in antiquity. The forward edge of the delta's arable land is protected from the sea by raised dikes and the river's flow has been regulated by upstream dams and canals. Pumping stations remove the groundwater which until recently rendered the area swampy, and cement-lined channels direct this water to the sea. Much of the land thus recovered has been turned into rich farmland, the salts having been leached from the soil

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by fresh water irrigation. Maize, rice, melons and vegetables are now grown where nineteenth century travelers describe a swamp and a lake.[2]

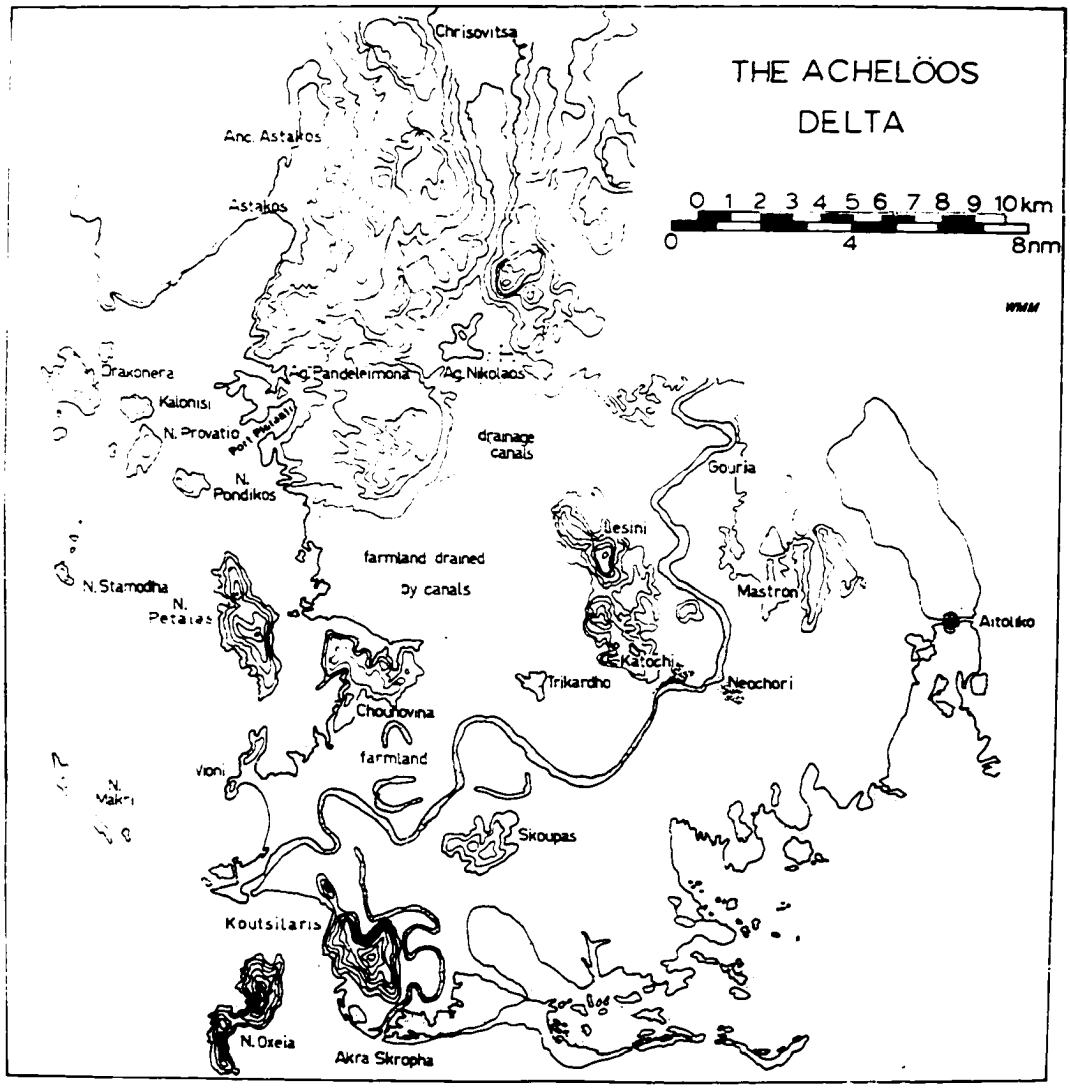

Fig. 4

Although the nineteenth century appearance of the plain is closer to that it exhibited in antiquity, it is quite clear from ancient de-

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scriptions of the area that the topography of this floodplain has been critically altered since antiquity by the action of the nearby river. The basic process through which this has occurred is well understood. As surface water flows in a river or stream, a certain amount of particles become temporarily suspended in the water or rolled along the ground and are transported with the flow. The faster the flow, the greater the amount and size of the particles the water is able to suspend or move. When the velocity of the flow diminishes, some of the particles of its "load" are dropped -- the heaviest ones first, then the medium ones and so forth. The lightest particles are dropped when the flow ceases.

A substantial river such as the Acheloos flows quite fast during the winter rainy season. Thus, at this time of year, the amount and size of the particles increases. Characteristically, so much water is carried that the river overflows its banks and floods the surrounding land. As the river merges with the sea, the flow rate diminishes rapidly and the particles are dropped to the sea floor -- the heaviest ones closest to the shore, the medium ones a little further out and the lightest ones furthest from shore. In time, the heavy particles (sand, gravel and small rocks) will accumulate and form a beach ridge parallel to the shore at the mouth of the river. This beach ridge can be extended along the coast by wave action and become quite extensive. Now when the river overflows its banks, a lagoon of flood waters will form behind the ridge, the velocity of the flow will drop and a great amount of material will be deposited, thus raising the level of the

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land behind the beach ridge. Eventually, after many winter floods, the level of the lagoon will fill up to equal the height of the beach ridge and a new ridge will begin to develop further out into the sea and the sequence begins again.

This process of delta formation is not quite so simple in reality. It can be partly offset by rising sea level,[3] by sea currents, seasonal storm tracks and, of course, it depends on the amount and nature of the particles carried by the river, a variable which is continually changing. Largely due to this process, the harbor of Oiniadai is now surrounded by fields at least 2.0 m above present sea level and the coast is miles away.[4]

Since the rate at which the approaches to Oiniadai silted in bears directly on its usefulness as a harbor town, it is important to try to define this process as accurately as possible. The ideal way to tackle this problem would be to drill a number of cores in the plain around the ancient site of Oiniadai and analyze them much as Kraft et al. have done for the Messenian plain.[5] Such an undertaking was outside the limits of this project's budget, so for the present we must rely on the inexact reports of a handful of literary sources.

I should mention here that the location of Oiniadai is not in question. W.M. Leake correctly identified the remains of this city at Trikardho, a complex clump of low hills in the middle of the (at that time) Lesini swamp, in the first decade of the nineteenth century. Trikardho fits the ancient testimonia so well that the identification has never been doubted. The problem addressed here is simply the iden-

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tification of the various stages of the advancing delta attested by our literary sources.

Herodotos (2.10.3) is our earliest source to mention the alluviation process here; by the mid-to-late fifth century, a number of islands of the Echinades group (Herodotos says one-half) had already been joined to the mainland. Thucydides provides us with our only hint concerning the actual placement of the site relative to the coast. In 2.102.2, he tells us that the Acheloos River flowed into the sea near Oiniadai and that during the winter, Oiniadai was within the area inundated by the lagoon which formed behind the beach ridge.[6] The impression gained from the passage is that Oiniadai is very close to the seacoast if not actually on it. If the river flowed into the sea near the city, then the site must be somewhere within the beach ridge--the lagoon area described above--but where? Was Oiniadai on the sea at the beach ridge or had the ridge already extended past the site? Thucydides 3.7.3 provides a partial answer: καὶ ὕστερον Ἀκαρνᾶνας ἀναστήσας [Asopios] πανδημεὶ στρατεύει ἐπ' Οἰνιάδας καὶ ταῖς τε ναυσὶ κατὰ τὸν Ἀχελῷον ἔπλευσε, καὶ ὁ κατὰ γῆν στρατὸς ἑδήου τὴν χώραν. Asopios sailed against Oiniadai "by means of the Acheloos." The τε after ἐπ' Οἰνιάδας coordinates the two verbs στρατεύει and ἔπλευσε; both actions are directed ἐπ' Οἰνιάδας. The editors, Classen, Steup and Jones, print a comma after στρατεύει ἐπ' Οἰνιάδας (,) in their respective editions which is misleading. It pairs the fleet's action with the army's and results in the following translation: "He then raised an army from the whole country of Akarnania and marched against Oiniadai.

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The fleet sailed down the Acheloos and the army laid waste the land."[7] Read this way, it is unclear what the fleet is doing; is it sailing toward the city, or merely down the river in support of the army? The Greek text is not so ambiguous. As A.W. Gomme notes, one would expect ἀνά if such a meaning was intended.[8] Thus, in the time of Thucydides, the city could be reached by sailing on the river; the site was not located directly on the seacoast.

In addition, Thucydides (like Herodotos before him) describes the process of land formation here. According to him, the Echinades Islands just offshore from Oiniadai and not far from the mouth of the river were quickly becoming part of the mainland. He further asserts that they were all to become joined to the mainland in the near future: . . . οὐκ ἐν πολλῷ τινὶ ἂν χρόνῳ τοῦτο παθεῖν.[9] The fourth century periplus compilation once thought to be the work of Skylax keeps us informed that the process was continuing at that time.[10] Artemita, most likely modern Chounovina, was perhaps still an island in the third century, but by the time of Artemidoros of Ephesos (fl. 104-101 B.C.), it was called a χερρόνησος.[11] At this same time, it appears that the hill called Koutsilaris was still an island and perhaps so too was nearby Skoupas.[12]

In the first century, the geographer Strabo provides us with a fairly good description of the lagoons at the river's mouth, yet his placement of Oiniadai in relation to the seacoast is problematic. Strabo 10.2.2 asserts that there were two Oiniadais, an "old" one and a new one. Old Oiniadai, which was uninhabited, lay equidistant between

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the mouth of the river and Stratos, and the new, inhabited Oiniadai lay 70 stades from the mouth of the river.[13] Leake and Oberhummer believe that Strabo's "Old Oiniadai" is to be identified with the town Stephanos of Byzantion calls Erysiche.[14] They consider this identification attractive since Stephanos writes that Erysiche was the original name for Oiniadai.[15] Although Stephanos' account does not imply that the town was moved when its name was changed to Oiniadai, it has been taken with Strabo's account to show that it was. Since we have no clue concerning the exact location of Erysiche, agreement has not been reached concerning its placement. Heuzey would place it at "Rigani" (his candidate for ancient Metropolis); Oberhummer, somewhere near Podolovitsa or a little further north; and Kirsten believes that it should be identified with ancient Metropolis as Oiniadai's "mother city."[16] Whatever may be thought of Old Oiniadai's true identity, its location must fall roughly half-way between the sea and Stratos, according to Strabo, somewhere along the Acheloos. At best, we must conclude that both the town's identification and location are uncertain.

Strabo's account has further implications. If we accept the existence of a separate Old Oiniadai, then new Oiniadai must be identified with the ruins at Trikardho which, according to the account, was at that time 70 stades from the mouth of the river. This would imply that the coast had been built out to approximately today's position by Strabo's time.[17] We must then assume that one or two of the Oxeiai Islands were joined to the mainland (thus leaving one island, Oxeia, as it is today) in the period between Apollodoros' statement (see nn.

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11 and 12)--about one century. In response to the obvious objection that this is a rather short period of time, Leake argues that the Oxeiai island group could have retained its plural form even after becoming joined to the mainland.[18]

We encounter more problems when we consider Strabo's description of the lagoons at the river's mouth (10.2.21). If Strabo's coast is roughly at the same position as the coast in Leake's day, then we might expect the sizes of the ancient lagoons to be a good deal larger than the ones of this area in the nineteenth century. Or in other words, if the coastline or beach ridge of the Acheloos delta has remained approximately the same for over 2,000 years, then we should expect that the lagoons behind this ridge would have filled in considerably over this long period of time. We know that the Acheloos was still overflowing its banks by a few remarks of Captain Mansell in 1866:

> [The Aspro Potamo is] a deep broad tortuous stream, which during great rainy seasons, overflows its banks and inundates the whole plain .... This port [port Skropha], now only available for small boats, was thirty years ago sufficiently deep for large brigs, its filling up caused by debris brought down during heavy rains from the low marshy land to the Eastward which is interspaced with large lagoons, separated from the sea by a narrow belt of land .... [Port Petala] would be one if not the most important along the whole coast, but for its shallowness which within these last few years has greatly increased by the deposit caused by the overflowing of the river Aspro Potamo during rainy seasons.[19]

Systematic flood control has not been applied to the Acheloos for longer than the past half century, and the lower delta could have been flooded every winter and early spring to a lesser or greater degree for

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more than nineteen hundred years. We fortunately have the sizes of these lagoons in Strabo's day. He tells us that there were three of them: the one around Oiniadai, called Melite, measured 30 X 20 stades; another called Kynia measured 60 X 40 stades; and the third, Ouria, was much smaller than the other two. Leake fully admits that these descriptions do not fit the reality of his own day; the lagoons of Leake's day were much larger, not smaller as one would expect had the coast remained the same. According to Leake, Strabo is either misinformed or the numbers of his account are corrupt or the actual sizes of the lagoons have increased over the years.[20] As a result, Leake can ignore Strabo's descriptions and then can identify Melite with the much larger nineteenth century swamp around Trikardho, Kynia with the lagoon of Anatoliko and Ouria with the lagoon at Mesolongi.

We have another alternative. Considering that the lagoons at the mouth of the Acheloos are not likely to have remained largely unchanged for nineteen and one-half centuries, there is little reason to challenge the precise description of Strabo 10.2.21. There are reasons, however, to doubt the validity of the isolated reference to "Old" Oiniadai in 10.2.2. At least part of the passage is based on poor information, for in it, Stratos is placed on the road between Alyzeia and Anaktorion. Even switching the positions of the names does not help the sense of the passage because Alyzeia, Stratos and Anaktorion cannot possibly lie on the same road. The text, therefore, does not seem to be corrupt, but rather, misinformed. I would argue that the statement concerning the two Oiniadais is also misinformed, or at the least, confused. This

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would explain why no other ancient writer mentions the existence of an Oiniadai settled previous to the fifth century one, which is well attested. Perhaps Strabo's informant initially told him something like: "Old Oiniadai is now uninhabited; it lies halfway between the sea and the site now inhabited. This new Oiniadai is seventy stades from the river's mouth." Old Oiniadai could then be identified with the site at Trikardho, which by the first century B.C. had become so silted in, that the inhabitants had moved out to a healthier site up the river. According to this view, the outer edge of the delta would not yet have reached its westward limit, and therefore, it would be fruitless (and this seems likely for other reasons discussed above) to try to identify Strabo's Melite, Kynia or Ouria with the nineteenth century lagoons. It should also be noted that the last direct reference to the navigability of the approaches to Oiniadai occurs in 219 B.C. when Philip V fortified the harbor (Polyb. 4.65.8 ff.). It is reasonable to expect that this was still the case when Laevinus captured the town in 212 (Livy 26.24.15) but thereafter Oiniadai is never again mentioned as a harbor town.

By the first century A.C., the situation had not changed much--Artemita (Chounovina) was still being progressively attached to the mainland.[21] The delta's westward movement had apparently slowed by the mid-second century A.C. because Pausanias (8.24.11) reports that the Echinades were not yet joined to the mainland as predicted by earlier writers. The lagoons, no doubt, continued to become more and more swampy as successive amounts of silt were deposited into them. Pre-

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sumably Oiniadai lay then, as now, only seasonally inhabited by a few herdsmen. And given the existence of the surrounding marshy lake, fishermen probably lived here at times, too.

The story gained from our literary sources is quite deficient. We do not know when the delta reached its present westward limits, nor when the area to the north of Trikardho silted in. We also do not know the effect of at least a 2.4 m rise in sea level which occurred largely during the Christian era.[22] Only a systematic scheme of coring and surface analysis aided by the study of aerial photographs might help to answer these questions.

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Notes to Chapter II

[1] Strabo 10.2.19 says that some authors interpret the myth of Herakles struggling with the river god Acheloos as Herakles' building of flood control dams and channels to help drain the παραχελῳῖτις; see Oberhummer (1887 : 16 n. 4) for the pertinent references. Diodoros 4.34.3 spells out what Strabo omits: Ἡρακλῆς δὲ τοῖς Καλυδωνίοις βουλόμενος χαρίσασθαι τὸν Ἀχελῷον πόταμον ἀπέστρεψε, καὶ ῥύσιν ἄλλην κατασκευάσας ἀπέλαβε χώραν πολλὴν καὶ πάμφορον, ἀρδευομένην ὑπὸ τοῦ προειρημένου ῥείθρου. The area was obviously fertile (cf. Paus. 4.25.1) and it was this reason, not that the boundaries were altered by the changing course of the river (Strabo 10.2.19) which set the Akarnanians and Aitolians to fighting.

[2] Cf. Leake (1835 : III.558, plan p. 562, 570); Heuzey (1860 : 439).

[3] Evidence discussed below (cf. Appendix E) indicates that sea level has risen relative to the land 3.0 m ± 0.6 m since the fourth/third centuries B.C. and thus, the surrounding plain has risen at least 4.4 m since that time (the plain is now at least 2.0 m above the present sea level; cf. n. 34; 5.0 - 0.6 = 4.4), and perhaps more since the fifth century. The implications of this fact will become apparent when the remains at the two harbors are examined.

[4] Cf. n. 34. For a more comprehensive description of the coastal sedimentation process, see Evans (1973).

[5] Kraft, Aschenbrenner and Rapp (1975).

[6] Thuc. 2.102.2: ὁ γὰρ Ἀχελῷος πόταμος ῥέων ἐκ Πίνδου ... ἐς θάλασσαν δ' ἐξιεὶς παρ' Οἰνιάδας καὶ τὴν πόλιν αὐτοῖς περιλιμνάζων ἄπορον ποιεῖ ὑπὸ τοῦ ὕδατος ἐν χειμῶνι στρατεύειν. Given the reality of the beach ridge/lagoon system, "περιλιμνάζων" must refer to the pools which form in winter behind the beach ridge, which later dry up or diminish in size during the summer. Strabo describes these lagoons 400 years later (10.2.19; see text p. 26); there is no reason why they should not have existed in the fifth century.

[7] The translation is that of Warner (1954 : 166).

[8] Gomme (1956 : II,259).

[9] Thuc. 2.102.3.

[10] Ps.-Skylax 34: καὶ κατὰ ταῦτα νῆσοι παράκεινται πολλαί, ἃς ὁ Ἀχελῷος προσχωνύων ἤπειρον ποιεῖ. καλοῦνται Ἐχινάδες αἱ νῆσοι· εἶσι δὲ ἔρημοι.

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[11] Stephanos of Byzantion records (s.v. Ἀρτέμιτα): "Artemidoros says it is a peninsula near the mouth of the Acheloos. Apollodoros (the Artemisian) says it is next to the Oxeiai Islands. Rhianos in the eighth book of his Thessalika says, 'I went to the Oxeiai Islands and to Artemita.'" If Artemita is part of the Echinades group (Strabo 1.3.18) but separate from the Oxeiai group, it must be either Petalas or Chounovina; Petalas is still an island today. It is also possible (but not necessary) to extend the "νήσοις" of Rhianos' statement (νήσοις Ὀξείῃσι καὶ Ἀρτεμίτῃ ἐπέβαλλον) to include Artemita. Rhianos' floruit was in the second half of the third century.

[12] The plural forms of Oxeiai used by Rhianos and Apollodoros (see n. 11) signify that there was at least one other hill near the present Oxeia Island which was unattached to the main, and perhaps two.

[13] Strabo 10.2.2: καὶ ἡ Αἰνία δὲ [Οἰνιάδαι has been read by most editors] καὶ αὐτὴ ἐπὶ τῷ ποταμῷ, ἡ μὲν παλαιὰ οὐ κατοικουμένη, ἴσον ἀπέχουσα τῆς τε θαλάττης καὶ τῆς Στράτου, ἡ νῦν ὅσον ἑβδομήκοντα σταδίους ὑπὲρ τῆς ἐκβολῆς διέχουσα.

[14] Leake (1835 : III,526-27) places Erysiche at "Paleá Mani;" Oberhummer (1887 : 33) places it closer to Trikardho.

[15] Steph. Byz. s.v. Ἐρυσίχη, and also s.v. Οἰνιάδαι.

[16] Heuzey (1860 : 427-28); Oberhummer (1887 : 33); and Philippson and Kirsten (1958 : 603).

[17] This view was first put forth by Leake (1835 : III,570-74); it has been accepted by Oberhummer (1887 : 14-16).

[18] Leake (1835 : III,571-72).

[19] OD 257.

[20] Leake (1835 : III,572-73).

[21] Pliny HN 4.5.

[22] For the argument that this area had not yet silted up to any great extent by the sixteenth century A.C., see Throckmorton, Edgerton and Yalouris (1973). Evidence given by Leake (1835 : III,570; IV,1-2) that the marsh north of Trikardho was fed by water sources of its own (i.e., not the Acheloos) is in agreement with information I obtained from local inhabitants. This outflow of essentially silt-free water could have served to keep the influx of silt from the Acheloos to a minimum.

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CHAPTER III

Oiniadai (Cf. Fig. 3, site 1 and Fig. 5)

Useful Maps and Charts: 8; 16; 20; 21,I.4; Heuzey (1860 : Pl. XIV); Powell (1904a : Pl. vii); Kirsten (1937 : 2217-18)

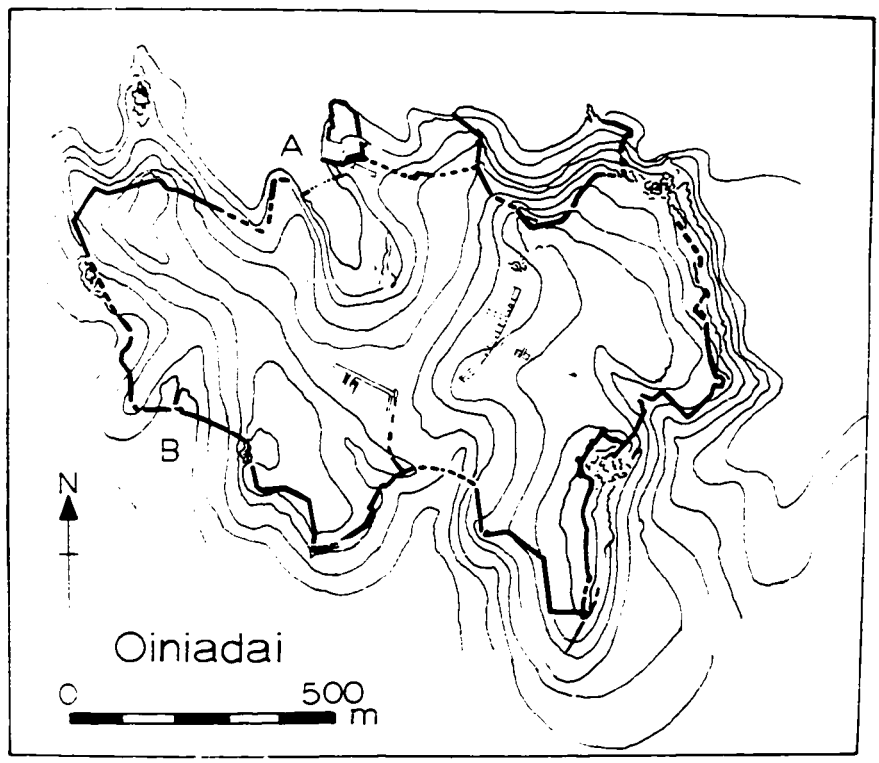

Fig. 5

As previously noted, the ancient site of Oiniadai was first correctly identified by Leake in the early nineteenth century. Trikardho, the clump of hills on which the city was built, is currently located

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about 2 km north of the Acheloos River about 7 km east of the sea. Katochi, the nearest inhabited town, lies 4 km to the west by road.

The site of the polis is an impressive one which boasts an extensive polygonal circuit wall over 6 km in length. In 1900 and 1901, the American School undertook excavations at selected places within the city and their reports, published in the 1904 AJA, constitute the basis of our factual information concerning the physical remains here. F. Noack was unimpressed enough with the results of the American survey to carry out his own work in 1906, but his plan and remarks never saw publication. Some twenty years later, E. Kirsten published an article on Oiniadai for the RE and included Noack's plans and refers occasionally to Noack's comments. This work is still the best and most easily available treatment of Oiniadai.

Because the circuit had already been mapped sufficiently to show the size and nature of the site (although a new, more accurate survey could profitably be undertaken), I limited my investigations to the areas of the two harbors evidenced at this site.

A. The Northern Harbor Area (Cf. Fig. 5 at 'A', and Fig. 6)

Useful Maps and Charts: Heuzey (1860 : Pl. XIV), Powell (1904a : 162); Kirsten (1937 : 2219); Leake (1835 : III, 559; 562)

There can be no doubt that the major, commercial harbor of Oiniadai was located on the north side of Trikardho in a long narrow indentation into the hillside, south of the harbor fortress which surrounds the shipsheds. Today, the harbor is filled with alluvium and it takes some imagination to reconstruct the original setting.

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The Shipsheds. The most notable evidence that this area was originally a harbor is provided by the striking remains of the shipsheds located at its northeastern entrance (Fig. 6, I). Designed to accomo-

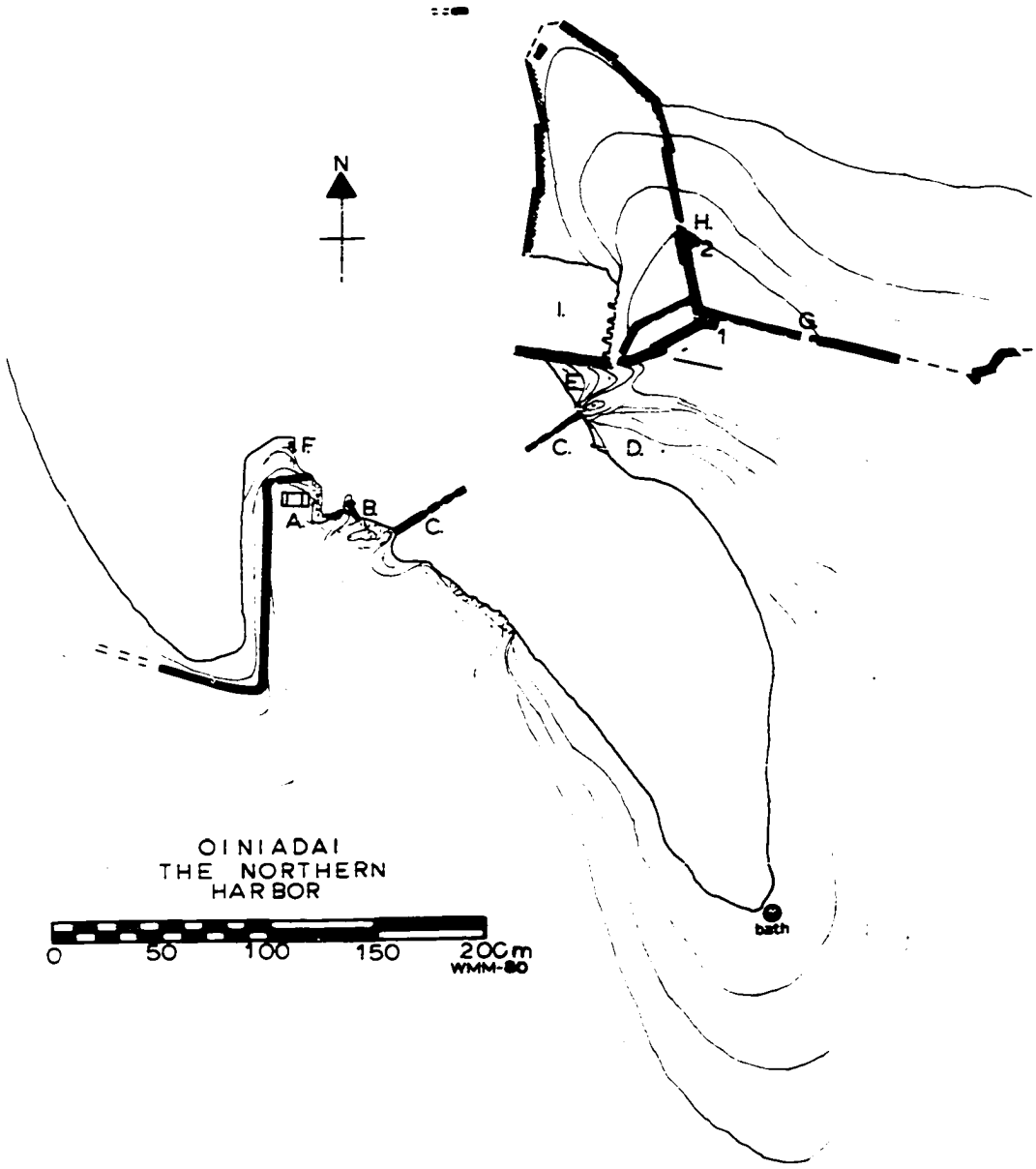

Fig. 6

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date five warships, they most closely resemble the shipsheds built at Zea in the Peiraieus during the fourth century.[1] Each slipway was covered by a saddle roof supported on columns which stood in a line adjacent to each berth. The entire structure was partially cut into the bedrock of the hillside and a large engaged pier of bedrock was left protruding from the back wall at the terminus of each line of columns and at each intercolumniation; five remain today. D. Blackman believes these constitute storage chambers for gear (see n. 1), but this is far from certain. The upper end of each slipway's floor curved upward so it seems likely that the triremes were hauled out stern first. One of the slipways was excavated fully, and the V-shaped key cut deeply into the bedrock floor (up to 0.75 m deep) to receive the trireme's skeg-keel and bilges is still visible. No doubt it was originally sheathed in wood to protect the ship's hull. The gradient of the slipway is about one in six, a 16.6% slope.[2] Adjacent to the north wall of the structure was an area which did not exhibit a V-shaped key and the excavators concluded it was an arsenal for the ship's gear.[3] The total length of the slipways was not determined because groundwater impeded digging at the west end of the one slipway fully excavated.[4]

The date of this structure cannot be determined with certainty. None of the small finds, however, date from earlier than the third century and there is clear evidence of doweling at the base of the columns, a technique not earlier than the fourth century. We know the shipsheds were built by the time of Philip V's arrival in 219, but how much earlier is a matter of conjecture. Perhaps the earliest they

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might have been built was in the 390's to serve the Athenian triremes stationed here.[5] Yet the preponderance of finds in the shipshed area which date to the Hellenistic period tends to favor a later date of construction.[6] More likely, these sheds were built by the Aitolians during their long possession of the site, perhaps shortly before 221 when we hear that these people were using Kephallenian ships to harrass the Akarnanian coast.[7] But until further excavations are conducted, the paucity of our literary record does not allow for any confident dating of this important structure.

The Harbor Fortress. Surrounding the shipshed structure and its immediate environs to the north and east is a completely integral polygonal circuit which displays two towers (Fig. 5 at '1' and '2'; Pl. 1. A-D) and an arched gate (Fig. 5 at 'H'; Pl. 2.E). This fortress exhibits some of the best preserved masonry at the site; tower 1 is preserved to a height of sixteen courses (Pl. 1.A) and the arch over the gate is still intact. The walls are built in a polygonal style yet the towers and jogs are constructed of trapezoidal blocks laid in horizontal courses (Pl. 1.B). It is this mixture of styles that has caused so much controversy concerning the building date of this fortress, even though an account of Polybios survives which dates the structure. This mixing of polygonal with trapezoidal masonry occurs often in Akarnania. And if the accuracy of Polybios' account can be established, we will verify the useful observation that the two styles can occur side by side in the same structure and be contemporary. We will also gain a definite date for the fortification--a rare achievement when dealing

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with such structures. It will, therefore, be worth the time to defend Polybios' account.

We are told that in 219 B.C. when Philip V campaigned in Aitolia and Akarnania, he decided to use Oiniadai as a base of operations (Polyb. 4.65.8, 11):[8]

> ὁ δὲ Φίλιππος συνθεασάμενος τὴν εὐκαιρίαν τοῦ τόπου πρὸς τε τἆλλα καὶ μάλιστα πρὸς τὰς εἰς Πελοπόννησον διαβάσεις, ἐπεβάλετο τειχίζειν τὴν πόλιν .... εἰς ἃ βλέψας τήν τε ἄκραν καθ' αὐτὴν ἠσφαλίσατο, καὶ τῷ λιμένι καὶ τοῖς νεωρίοις ὁμοῦ τεῖχος περιβαλὼν ἐνεχείρει συνάψαι πρὸς τὴν ἄκραν, χρώμενος πρὸς τὴν οἰκονομίαν ταῖς ἐκ τοῦ Παιανίου παρασκευαῖς.

The city apparently had no functional defenses; he therefore started at the two most important points, the akropolis and the shipsheds. His intention (ἐπεβάλετο) was to eventually fortify the whole city. We are also told he began to join the shipshed area to the akropolis, but here the troubles begin; we have no physical remains which evidence this 'joining' attempt in the area between the akropolis and the harbor fortress. The imperfect tense of the verb ἐνεχείρει suggests that the action συνάψαι was not completed, but it does imply it was begun, and was not just an unfulfilled or unbegun plan. Disturbed by the lack of physical evidence which could agree with this action, Leake and Heuzey have concluded we are at the wrong harbor; they posit another one to the southeast of the city, now under river silt or long ago swept away by the changing course of the Acheloos.[9] They are alone in this view. The northern harbor so clearly fits the description of Polybios that it is absurd to look elsewhere. We are left with the conclusion that if

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Philip did begin to join the akropolis to the harbor fortress, no evidence of it exists today.

Upon close examination, the remains at the harbor fortress exactly fit Polybios' account. A careful scrutiny of the tower 1 area reveals that the circuit surrounding the shipsheds was conceived without regard for an already existing city circuit built prior to 219 B.C.[10] The earlier line of this polygonal circuit approaches the shipsheds from the east; the remains of a gate (Fig. 7, at 'G') are evidenced by an *in situ* foundation block with a drafted edge and a few foundation blocks of the gate's eastern wall. This circuit continues from here toward tower 1 where it is clearly incorporated in the tower's lower north face (Pl. 1.C, E). The wall then jogs to the northwest for 6.7 m to where a straight vertical line of block edges marks the original corner and the wall's turning to the southwest (Pl. 2.B).[11] This corner lines up perfectly with the outer face of the wall now serving as a retaining wall for a raised terrace within the harbor fortress, directly inside tower 1. Unlike a normal terrace wall, this one exhibits a double face and at one time it must have stood free as the outer defensive wall of the city. This earlier circuit probably terminated with the eastern blocking wall I have marked 'C' at the entrance to the commercial harbor (Fig. 7; Pl. 2.F). Just exactly what the line of the wall was above the southeast corner of the shipshed area 'I' is difficult to tell. Perhaps, as at the western entrance to the harbor near the temple 'A', the natural terrain was deemed steep enough to obviate the need for a large scale defensive wall.[12] The wall has collapsed

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here, but it originally must have joined the shipshed's south wall; whether there was a tower or thickened platform here is impossible to tell.

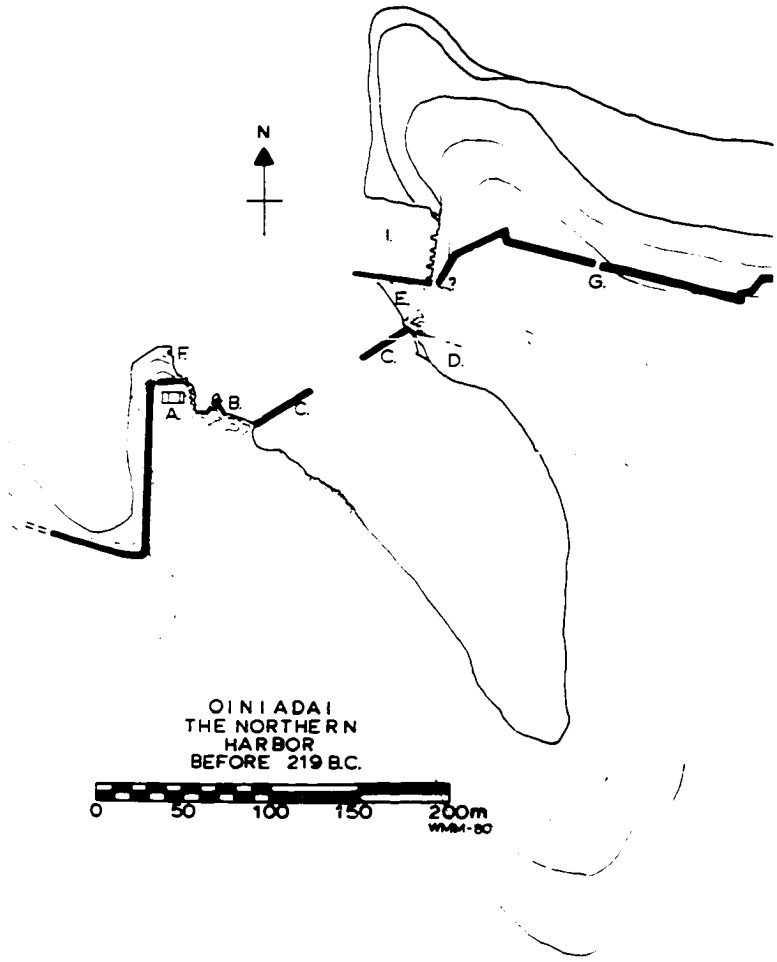

Fig. 7

The south wall of the shipsheds displays two different thicknesses and, I believe, two building phases. The first phase was the wall's use solely as the support for the southernmost shipshed's roof. Later,

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when the fortress was built, the wall was widened to act as a ramp which led from the level of the harbor to the elevated terrace on which the upper fortress and tower 1 were located. As at 'B' (see below), I see the area at 'E' as an entranceway into the city; when the harbor fortress was built, a regularized approach was constructed next to the existing shipshed wall.[13]

An examination of Figs. 6 and 7 shows the correctness of Polybios' account. If the wall running from gate 'G' was intact in 219, then tower 1 was built inside the city. Philip did have to begin anew. He utilized the old city wall to the southeast of the shipsheds but in completing the rest of the project he established a new line. The integral bonding of the trapezoidal blocks of the jogs and towers into the polygonal circuit (cf. Pl. 2.C) argues against the assertion that Philip merely refurbished an old circuit wall by conducting repairs and adding towers and a gate.[14] Furthermore, many of the trapezoidal blocks utilized in this fortress show signs of reuse and were most certainly part of the materials brought from Paianion (cf. Pl. 2.A, D).[15]

Two objections might be advanced against this interpretation. First, Philip was said to have surrounded the shipyard and the harbor with a wall, and second, the apparent inadvisability of building a naval station, unprotected, outside the city circuit. In answering these objections we must begin with the fact that the existence of a pre-harbor fortress circuit is irrefutable. All future attempts to sort out Polybios' account must start from this fact. That the shipsheds were so poorly defended is not so peculiar when we remember the

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general poor state of the defenses at Oiniadai during this period. The Aitolians chose to flee rather than trust in these defenses; for whatever reasons they had deemed it unnecessary to fortify the site strongly. Philip was faced with a crumbling circuit wall when he contemplated his building program. Other changes had affected Oiniadai over the years of neglect; after 219 we hear no more of Oiniadai's harbor; after 189 we hear almost nothing of the city. The existence of an inner harbor behind the two blocking walls is doubtful in 219. The original commercial harbor was probably choked with silt when Philip arrived; any harbor was most likely outside the blocking walls, and centered at the naval station.[16] Therefore Polybios' account could be read: "throwing a wall around the harbor and the shipsheds together [ὁμοῦ--i.e. together as a unit] ...." This does no damage to the text and accords with the physical remains.

The Inner Harbor (Fig. 6). The appearance of this harbor today is quite different from what it was in antiquity. Pigs wallow in the mud where ships once discharged their cargoes; during the winter, the harbor becomes a shallow pool, filled to the depth of a meter with groundwater from a nearby spring.[17] As a result of the silting process described in Chapter II, the harbor has completely changed its appearance. When it is remembered that the sea level in the heyday of this harbor's use was at least 2.6-2.4 m lower than today's level,[18] it follows that all the ancient structures built near the shore of that ancient sea level are currently buried under meters of accumulated silt.

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Two other factors have added to this effect. As the Acheloos built its delta seaward, the areas inland were raised in elevation over and above that of the sea level; this is the natural result of delta formation. Colluvium, soil carried off the hillsides by weather action, also filtered down into this harbor--how much is difficult to tell without coring. A conservative estimate allows 2.4 m for sea level rise, 2.0 m for delta buildup[19] and 0.5-1.0 m for the addition of colluvium. The ancient level of the harbor is therefore at least 4.9-5.4 m under the present blanket of silts, and since this is a conservative estimate, the original level may be even deeper than this.[20]

These conclusions have since been supported by the findings of J.C. Kraft and C. Villas who (independent of this present study) drilled a series of cores in the Acheloos delta during the summer of 1981. One of their cores was drilled about 500 m northwest of the shipsheds. To save pipe, the core was drilled in an empty drainage ditch about 1.0 m below the surface of the surrounding plain. Their first tentative analyses show that marine and lagoonal deposits begin at a depth of about 3.7 m. And their log book entries indicate securely identifiable marine deposits at a depth of about 4.6 m. Although their final conclusions may differ somewhat from these preliminary log entries made at the site, the indication is clear that when the sea (and not a swamp) surrounded the entrance to Oiniadai's northern harbor, it stood some 4.7-5.6 m below the current level of the plain.[21] As a result, the original shape of the harbor was certainly more constricted than it appears today. This significant difference in levels also must account

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for the paucity of harbor-related remains at the site. Docks, moles, warehouses, etc. may be buried under more than five meters of silt and groundwater.

The most striking indication that there was a harbor here at all is the heretofore unnoticed presence of the two blocking walls (Fig. 6, at 'C') southwest of the shipshed area. These once served to close the harbor against sea-borne attack, constricting the original entrance to about 30-35 m. Easily closed by a chain, this harbor provides an excellent example of the λιμὴν κλειστός.[22]

The Temple Area (Fig. 6, at 'A'). Situated atop a small promontory at the western side of the harbor just outside the entrance is a small temple. The Americans examined this structure in 1900 and 1901 and published a groundplan and a brief description of it in 1904.[23] Within the building they found the base of the cult statue and probably some fragments of the statue itself. Powell has concluded from the fragment of a foot that the statue was a draped female figure about three-fourths life size. His observations are worth repeating here:

> Aside from this fragment we have no reason for assigning a name to this temple. If a female divinity were worshipped here, we might, from the proximity of the harbor, conjecture her to have been Athena the Savior, who was worshipped as goddess of the sailors at Piraeus, in conjunction with Zeus Soter (n. 1: Ἀθηνᾶ Σώτειρα, cf. CIA, II, 305, 325, 326, 469, 1387; III, 281. Cf. Strabo, 395, 396, and Pausanias 1.1.3. Artemis also had this cult title. Cf. Ἐφ. Ἀρχ. (1893), 59; also pp. 52-54, and (1883), p. 205, no. 5, Σώτειρα inscribed on a terracotta statuette of Artemis, holding a hare and caressing a fawn.).[24]

The setting of this structure is interesting in that it could be

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approached from three separate directions--one from the city, and two from the water. North of the temple is a gate in the city circuit which leads out to a set of rock-cut steps descending to a landing (?) (Fig. 6,F; Pl. 3.A). East of the temple, the hillside falls away steeply, yet near the area marked 'B' are two polygonal retaining walls which support a ramp leading down, perhaps to another landing. At 'B' there is a retaining wall which at one time may have presented a straight face to the water below.[25] It is impossible to tell why the two routes of access and egress were made from the temple to areas 'F' and 'B,' but for some unknown reason, accessibility to the water was important. Although we know nothing of the cult practiced here, one is certainly justified in seeing a connection between a temple so accessible to the water and some sort of 'water' deity. Whether or not this deity was principally a sailor's deity, or as Kirsten suggests, a marsh deity, is impossible to tell.[26] One thing is certain, it is the only religious building which has been located at Oiniadai.

B. The Southern Harbor (Cf. Fig. 5 at 'B' and Fig. 8)

Located in a bay at the western end of the south side of Trikardho is an earthen pier of reddish color which juts into the gray surface silts of the surrounding swamp. The average width of this pier is 10 m and the length of its west side is over 80 m. The pier's margins are sporadically lined with large rough stones, some the size of small boulders. The southern end melts into the level of the swamp and the northern end continues northeast toward the northern harbor area as a

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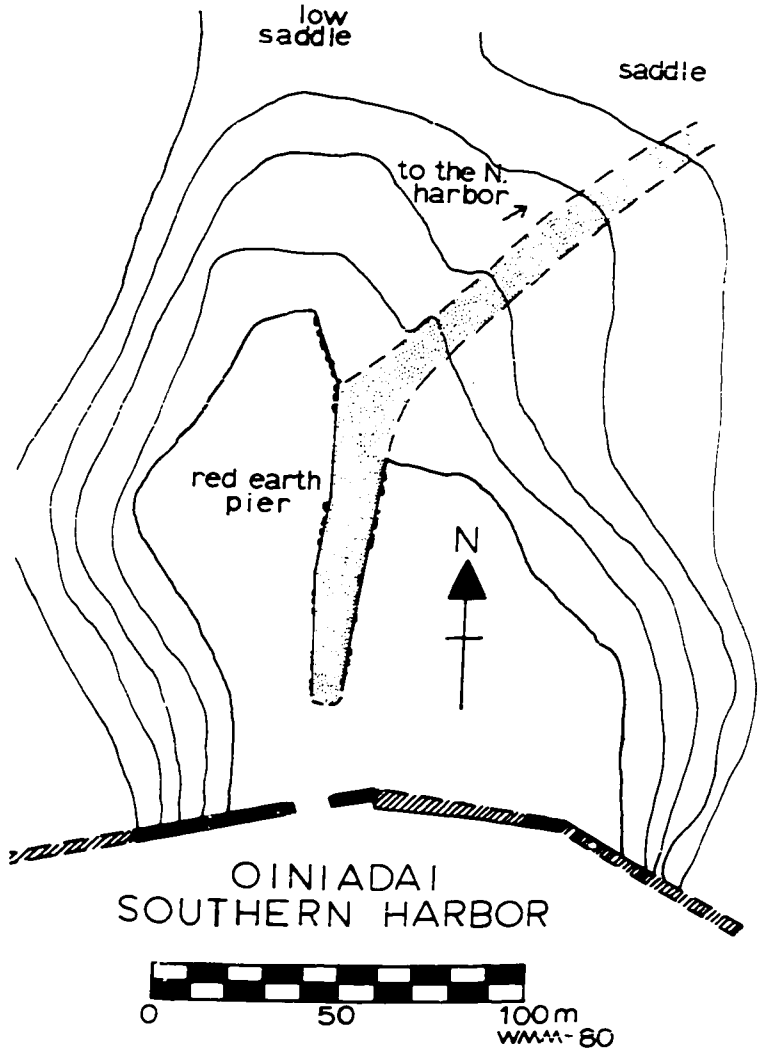

Fig. 8

road. Here and there, small traces of badly eroded limestone road metal trace its course up the hill. The construction of this pier is of the simplest sort. Limestone, with the characteristic red soil it forms, was cut from the hills above and dumped into this small bay to

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make a raised platform in the water. Although the surface appears to be composed of soil, the pier's major component is probably rock; it compacts less, would require fewer trips, or loads during construction, and would erode less quickly than soil. The surface would break down over time and cover the structure with the red soil which is present today.[27]

The use period of this harbor is problematic. The argument which concerns the ancient sea level and soil deposition due to alluviation and colluviation applies here as well. Since the present level of the pier is generally 0.5 m above the level of the surrounding swamp, in the fourth century B.C. it would have stood at least some 5.4 m over the level of the water;[28] this is hardly appropriate for such a structure.[29] Furthermore, given the gently sloping terrain of this embayment, if we removed 5 m of fill we might find that in the fourth century this whole area was dry land.[30] We are faced with two alternatives, therefore. Either a harbor was dredged out of this bay, provided with a steep pier and hooked up by canal to the river (or sea), or this pier was built at a time much later than the fourth century B.C. Considering this last alternative, it is possible that with the rising sea level, the embayment became flooded with water. Fishermen living at Trikardho removed some blocks from the circuit wall and built a landing at which they could tie their small boats.[31] This is another area where a core or two could provide us with much useful information.[32]

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C. Χώρα Οἰνιαδῶν (Cf. Fig. 4)

Useful Charts and Maps: 21, I.4 and 5; 21,T.4 and 5)

It is a well known and often stated fact that the Acheloos River formed the traditional boundary between Akarnania and Aitolia.[33] Boundaries were not always respected and from time to time, Oiniadai was controlled by the Aitolians. During these years, the city would have controlled lands on both banks of the river, but since this study is principally concerned with Oiniadai as an Akarnanian entity, only those lands on the western bank of the Acheloos will be considered here. The city's sphere of influence appears to have extended from the seaward edge of the delta to an (as yet) undetermined point north of the city. Although certain towns are named in conjunction with Oiniadai, our only clear evidence for the city's area of influence comes from a third century inscription found at Thermon (IG IX 1^2, 3B, lines 3-6): ... ὅρια τὰς χώ/ρας Οἰνιά(δ)αις ποτὶ Ματροπολίταις τὸ δια/τίχισμα (sic) καὶ ἀπὸ τοῦ διατειχίσματος // εὐθυρίαι διὰ τοῦ ἕλεος εἰς θάλασ(σ)αν.

Oberhummer lists Old Oiniadai, Erysiche, Nasos, Ithoria, Paianion, Sauria and Athenai as towns lying within this area of control.[34] Old Oiniadai is of doubtful existence (see pp. 23-24), Ithoria and Paianion were only dependent cities when Oiniadai was held by the Aitolians,[35] Sauria he identifies with Palaiomanina, and Athenai and Nasos have never been satisfactorily located.

Athenai perhaps never developed into a permanent settlement. We are told by a reference in Stephanos of Byzantion that it was a small

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town in southern Akarnania settled by Athenians, and the assumption has been made that it was settled during Perikles' campaign in the 450's. The fact is, we neither know the circumstances of this town's settlement nor its exact location.

Nasos is a different matter. During the events of the late third century, this place is mentioned twice in conjunction with Oiniadai.[36] We hear of it because it was taken during the course of two separate, successful assaults on Oiniadai in 219 and 211. Considering its peculiar name, the site was probably once on an island. On both occasions, the victorious forces had fleets at hand. It is, therefore, not unreasonable to see the capture of Nasos as the removal of a fortification on a then offshore island which guarded the approaches to the harbor of Oiniadai. Oberhummer placed Nasos on the small island-like hill to the north of Trikardho called Panagia (called Ag. Nikolaos in Fig. 4). Remains have been reported here, but no fortification has been found. Still, this site has been accepted by some as the probable site of Nasos.[37] It is true that Panagia (Ag. Nikolaos) was probably once an island but it can hardly be said to flank the seaward approaches to Oiniadai.

A much better site is afforded by the Hellenistic defenses reported on Skoupas which Rhomaios identified with Athenai.[38] According to him, there is a poorly preserved circuit wall of about 1500 m exhibiting six semi-circular towers; the locals called the place Portes. Five hundred meters toward the sea from Portes is a tower built in "pleuronic style" (trapezoidal blocks laid in horizontal courses),

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called Elleniko.

This site perfectly fits what little we know of Nasos. Skoupas was possibly still an island in the third century (see p. 23 and n. 12); it can be said to guard the approaches to Oiniadai; any fortress here would have to be reduced for a successful capture of Oiniadai; and the semi-circular towers could plausibly date to the period under discussion.[39]

D. Oiniadai to Astakos: Topographical Remarks (Cf. Figs. 2 and 4)
Useful Maps and Charts: 11; 19; 20; 21, I.4,5 and T.4,5

The nature of the Akarnanian coast changes rapidly when one moves out of the Acheloos delta region. From the bay of Astakos to the Plagia Peninsula, the same general characteristics are displayed--deep bays indenting an otherwise bold and rugged coast. The coast from Trikardho to Astakos provides the transition; here are what might be called the foothills of the Akarnanika Orē, the prominent feature beyond Astakos.

The sea distance from Trikardho to Astakos measures about 15 nm; a fast trireme could make the trip in two hours; a merchant vessel with favorable southerlies pushing it would need close to four hours, but with unfavorable conditions, the journey could last a few days.[40] In April 1809 it took Leake three hours to sail the 4 nm from a point near Trikardho to Port Petala where his boat grounded. From here he wanted to continue in a larger boat to Astakos Bay but the crew refused to sail because of squally weather. The next day they set sail and, four

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hours later, reached the landing at the head of Astakos Bay.[41]

The land route measures almost 30 km and took Lolling a total of about eight hours to cover.[42] Because of the marshy lake to the north of Trikardho and the numerous gates on the south and southeast sides of the city circuit, we can logically conclude that no ancient route led directly from the city toward Astakos. As in Lolling's day, one first had to backtrack to Katochi and follow a ridge of dry land from there around the northern shores of the swamp. The length of this detour naturally depended upon the size of the swamp, but in Lolling's day the route from Katochi was essentially that of the modern road, especially when one reached the low hills southeast of Astakos. The present route ascends to a saddle between Mts. Kakomali and Idhrophilia, then down the slopes of the latter mountain into the southeastern corner of the Astakos Valley.

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Notes to Chapter III

[1] As their length has not been accurately determined (see p. 34 and n. 4), there is some doubt concerning whether triremes, quadriremes or quinqueremes were housed here. See Casson (1971 : 364) and Blackman (1968 : 184).

[2] Casson (1971 : 364).

[3] Sears (1904).

[4] Casson (1971 : 364) concludes that ships larger than triremes were stored here because of the 47 m length recorded by the excavators. I measured the lengths of the sheds and found that the north wall was 45.4 m in length and the south wall was 43.3 m. Because of the upward sloping floors, the warship did not utilize all of these 45 m. It is probable that the functional lengths of these slips were closer to 40 m, like those at Apollonia; cf. Casson (1971 : 364). It should also be noted that my measurements are measured from the present line of the harbor fortress' walls; any measurement without recovering the end of the slipway is doomed to inaccuracy. Blackman's attempt to estimate the rise in sea level from the estimated length of the slipway is thus based on poor evidence; see Blackman (1968 : 184 with n.). He did not realize that ancient sea level is some 5 m below the present level of the swamp.

[5] Xen. Hell. 4.6.14 informs us that Athens based triremes at Oiniadai in 389 B.C.

[6] See Sears (1904 : 237). My own stray finds from the shipshed area were all datable to the Hellenistic period or later--red ware sherds, a small fragment of a Megarian bowl, a Roman amphora handle bearing a stamp in Latin (see Appendix C, no. 1), etc.

[7] Polyb. 5.3.7.

[8] During his march downriver from Stratos, Philip had taken Paianion and had ordered its defenses dismantled, apparently with the project at Oiniadai in mind (Polyb. 4.65.4): ταύτης δὲ τὸ μὲν τεῖχος κατέσκαψε πᾶν εἰς ἔδαφος, τὰς δ' οἰκήσεις διαλύων τὰ ξύλα καὶ τὸν κέραμον εἰς σχεδίας καθήρμοζε τῷ ποταμῷ μετὰ πολλῆς φιλοτιμίας εἰς τοὺς Οἰνιάδας. For the reading of τὰ ξύλα, see Walbank (1967 : I,519). In addition to beams and tiles, Philip apparently transported trapezoidal building blocks as well (see p. 39 and n. 15).

[9] Heuzey (1860 : 456); Oberhummer (1887 : 162 and n. 1, 245 and n. 3). In support of this argument, Heuzey points to the "wall of small stones" which runs south from the "large tower" at the southeast corner of the city circuit (cf. Fig. 5). I examined this wall and found that

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it is composed not of small stones, but rather, rougher, less worked polygonal blocks. It is badly broken down at its southern extremity, only some 60-70 m from the circuit wall (not the 300 m shown on the plan). This wall apparently leads down to a natural terrace below the "large tower." Even with a fanciful imagination, this wall cannot be interpreted as a remnant of the attempt to join the akropolis to the harbor.

[10] Since Kirsten (1937 : 2223 ff.) argues that Oiniadai's defenses did not include any stone fortification walls until this program of Philip, his theory is no longer tenable.

[11] The inner finished face of tower 1 which Scranton (1941 : 61) interprets as the face of an earlier tower incorporated into Philip's tower is merely the eastern wall of a ramp leading from the top of the circuit wall (coming from gate 'H') up to the level of tower 1's floor. This floor is still partially preserved and sits on top of this ramp's eastern wall (see Pl. 1.F).

[12] See pp. 42f. (The Temple Area).

[13] My interpretation is roughly similar to Noack's as reported by Kirsten (1937 : 2220), who calls it a "Wehrgang."

[14] Leake's opinion (1835 : III,563) has been generally followed by most scholars with the exception of Lawrence (1979 : 475) who does not argue his position. For the full literature on this matter, see the excellent bibliography presented by Lawrence in the above reference.

[15] I counted over 10 examples of such reuse which occurred in towers and jogs alike. It would be difficult to argue that Philip added the jogs as well as the towers to a preexisting circuit; cf. Pl. 2.A, C, D.

[16] Polybios' account of the events of 219 never mentions townspeople; it leaves the distinct impression that except for military personnel, the town was practically deserted. A cul-de-sac harbor such as exists to the south of the blocking walls would need to be cleaned out occasionally in order for it to remain functional.

[17] This spring is located at the base of the cliff south of the western blocking wall 'C.' The fact that water pools here, therefore, is not due to this area's lowness relative to the surrounding plain.

[18] For a summary of the sea level findings determined by this study, see Appendix E. The fifth century sea level value, 3.4 m ± 0.8 m, yields a minimum sea level change as 2.6 m (-3.4 + 0.6 = -2.6). The same reasoning for the fourth century sea level value yields a 2.4 m (-3.0 + 0.6 = -2.4) value.

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[19] There is a 3.0 m elevation which is noted about 2 km northwest of the harbor on the 1954 edition of the 1:50,000 map (entitled "Ekhinadhes Nisoi" : Sheet 1617 IV, series M708) printed by the U.S. Army Map Service, Corps of Engineers. A somewhat unclear remark of Kirsten (1937 : 2207) seems to imply that the heights above sea level (?) for both the bath and the spring are about 2.0 m.

[20] In May 1980, I watched as a backhoe scooped out a hole in front of the shipshed area in order to make a well. The entire depth of the hole (about the height of a man: 1.8 - 1.9 m) was composed of red clay silts except for a thin gray layer on the surface. Had the hole reached the bottom of the use period of this harbor, the color of the sediments should have been darker and might have included pottery fragments. I should point out here that the outline of the harbor represented in Figs. 6 and 7 does not attempt to reconstruct the original shoreline. I have merely represented the contour line where the level of the swamp noticeably starts to slope up towards the surrounding hills.

[21] C. Villas, personal communication, Dec. 1981.

[22] For this type of harbor, see Lehmann-Hartleben (1923 : 65-74), but note that he dates this harbor to the fifth century (1923 : 70). That this was a closed harbor this early is impossible to tell at present. It would be interesting to excavate along one of these walls. If the ancient harbor bottom was -5 or more meters, do we see the top of a wall preserved to a height of over 5 m, or was the wall built on a mole which stood above the surface of the water?

[23] Powell (1904b).

[24] Powell (1904b : 205 and n. 1).

[25] The drilling of a series of cores out from the retaining wall at 'B' could provide interesting information concerning the use of this area and possibly the process by which it silted up.

[26] Kirsten (1937 : 2221) mentions Artemis Limnaia as a possibility, and this makes some sense if she was worshipped here to ward off epidemics of malaria. Cf. Oberhummer (1887 : 118 and n. 1) who points out that when Hippokrates was at Oiniadai he mainly recorded the treatment of malaria cases (cf. Hippokrates Vol. 5, pp. 205-209, ed. Littré). In Oberhummer's day, malaria was still a problem in the environs of Katochi; cf. Oberhummer (1887 : 118 n. 1).

[27] A similar pier is being constructed today at Mytikas. Limestone is being cut from the nearby mountains, transported to the bay in trucks and dumped so as to build out a pier. Eventually the Mytikas pier will be covered with concrete, but the initial building principles are the same.

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[28] This is allowing for a 2.4 m difference in sea level, a 2.0 m difference due to the effects of alluviation and a 0.5 m difference (admittedly only a guess) for colluvium.

[29] One would expect the level of such a pier to be very close to that of high tide during the winter flood. The pier is in such a protected embayment that wave action would not affect it. Although it may have stood higher, I would not expect its level to differ from that of the sea by more than 0.5-1.0 m (see p. 173 and n. 71).

[30] The city walls at the entrance of this harbor do seem to descend into the level of the swamp somewhat, but they certainly do not descend at their foundations to a depth of 5 m. If that were the case, the preserved height of the wall would be over 5 m, that is, almost completely preserved; this is obviously not the case with these walls which appear to be badly broken down.

[31] There is a small type of fishing boat built today in Aitolo-Akarnania called a πρωάρι (also πλιάρι); it is about 4 m in length and has a flat bottom which allows it to float in very shallow water. These boats ply the waters in the present lagoons at the mouth of the Acheloos. It is such shallow-draft boats as these which I see using this harbor.

[32] One problem remains for which there is no simple solution. Even though the pier is simple in construction, it would have taken a fair amount of labor to build it. Theoretically, after 30 B.C., Trikardho was only sparsely inhabited. The reason so much energy was expended on building this mole must simply remain unknown.

[33] Cf. Strabo 8.2.3; 10.2.1; Pliny HN 4.1.5; IG IX 1^2, 3A, lines 5-7; cf. also Oberhummer (1887 : 3 and n. 2).

[34] Oberhummer (1887 : 33-34).

[35] Oberhummer identifies Ithoria with ruins southwest of modern Stamna, and Paianion with ruins at Mastron, both sites on the east bank of the river, and thus, essentially Aitolian.

[36] Polyb. 9.39.2; Livy 24.25.10; 26.24.15; 38.11.9.

[37] See Kirsten (1937 : 2209) for the literature; he does not side with any of the various proposals.

[38] Rhomaios (1918 : 111-12).

[39] Rhomaios calls these tower shapes "most rare elsewhere in Akarnania;" he had obviously not traveled to Agios Pendeleimona or to Kalamos Island; cf. pp. 57-59 and Benton (1931-32 : 233 fig. 15 and 234).

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[40] See Appendix A, pp. 369f. For my calculations here and elsewhere I will use a maximum average speed of 4 kn for a merchant vessel solely propelled by sails and roughly twice this for the speed of a trireme at normal cruising speed; see Casson (1971 : 283-88) and Landels (1978 : 166-69).

[41] Leake (1835 : IV,2-4).

[42] G.H. Lolling traveled this route about 20 years before the first road for wheeled traffic was built (OD 258 mentions that the road was "in course of construction" in 1893). Lolling (Urbaedeker, CCVII) writes that it took him 7 hours, 20 minutes to go from Katochi to Astakos; Trikardho is a 40 minute walk from Katochi.

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CHAPTER IV

The Approaches to Astakos Bay (Cf. Fig. 4)

Useful Maps and Charts: 1; 7; 8; 9; 10; 11; 12; 14; 16; 18; 19; 20; 21,I.4 and T.4

Astakos Bay is the first of three deep indentations in the Akarnanian coast which act as natural harbors. This bay is somewhat special because the approaches to it contain two of the best anchorages along the entire western Akarnanian littoral. Directly east of the Echinades Islands, which lie at the mouth of the bay and shelter it from the effects of southerly winds, is a very irregular coastline with numerous bays and coves. I have examined many of these bays only visually from a boat; there are no obvious ancient remains except at Agios Pandeleimona, yet an intensive survey of this area might well turn up isolated farm structures and small settlements.

This area's difficulty of access and limited availability of fresh water are, more than likely, responsible for its apparent lack of remains from any period.[1] One might expect to find an ancient settlement at the excellent harbor called Port Plateali, but the lack of any nearby water source negates this likelihood.[2] The nearest source of water is to be found in the little bay called Agios Pandeleimona; here too are the remains of a small settlement and a hill fort of Hellenistic date.

A. The Bay of Agios Pandeleimona (Cf. Figs. 4 and 11)

Useful Maps and Charts: 9; 10; 11; 12

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Situated at the eastern side of the entrance to Astakos Bay is an arm of the sea that stretches inland, its eastern end splitting north and south into two small coves. The harbor here, especially in the southern head of the bay, is excellent for small vessels. Most of the northern head with its extension to the southeast is heavily silted in and quite shallow. Today, the most visible remains are those of the warehouses and crumbling finger piers built in the mid-nineteenth century to store and aid in the shipping of acorns from the surrounding forest of Vilandia (also Valonia) oaks.[3] Many single trees still dot the hillsides, but no one can doubt that this whole coast has been radically altered due to the effects of deforestation. Writing in the 1860's, Captain Mansell describes the coast between Mytikas and Astakos as "steep to and thickly wooded with the wild olive and Valonia Oak."[4] Port Platea (i.e., Port Plateali) is "encircled with thickly wooded, undulating hills" (see n. 2), and the hills above Astakos are covered with oaks. According to the first edition of the Mediterranean Pilot, "red deer are found in the woods near Port Platea ...."[5] Concerning Agios Pandeleimona, Captain Mansell writes:

> ... to the North a long creek runs into the land with deep water all over. Here vessels load with Valonia brought down and stored in magazines constructed in a sandy bay at its head, water can be procured in small quantities from a well in the valley.[6]

Yet, by 1892, the deforestation of the area seems to have been well underway if remarks on the 1898 edition of BA 1455 are accurate.[7] Furthermore, the bay in which the magazines were constructed is anything

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but "sandy" today; an 1819 survey (Chart no. 1) shows 3 fathoms (5.5 m) of water where the piers were constructed--in 1892, 1¼ fathoms to ½ fathom (2.3-0.9 m) is the depth of this same area.

A significant amount of erosion must have occurred within a few decades and resulted in the silting up of the northern head of the bay at Agios Pandeleimona. The appearance of the Akarnanian coast may have been somewhat different in antiquity; it certainly was in the early to mid-nineteenth century of our own era.

B. The Kastro at Agios Pandeleimona (Cf. Fig. 9)

First reported by Leake, the fortress has been mentioned by subsequent travelers and scholars, but a plan of it has never appeared.[8] As can be seen from Fig. 9, the kastro is small and circular, sitting like a crown atop a small conical hill 55 m in elevation (Pl. 3.G). It exhibits at least six semi-circular towers but its gate has not been preserved. In fact, the northwest side has been so thoroughly destroyed that only a very general line of the wall can be discerned. The area marked "Gate?" on the plan is encased in a mound of earth; only careful cleaning or excavation of this area might reveal the presence of an opening (two possibly in situ blocks indicate there may have originally been a corner here). Since fortress blocks are utilized in the finger piers below, it is clear that blocks were taken from this side of the fortress to help with their construction in the nineteenth century.[9]

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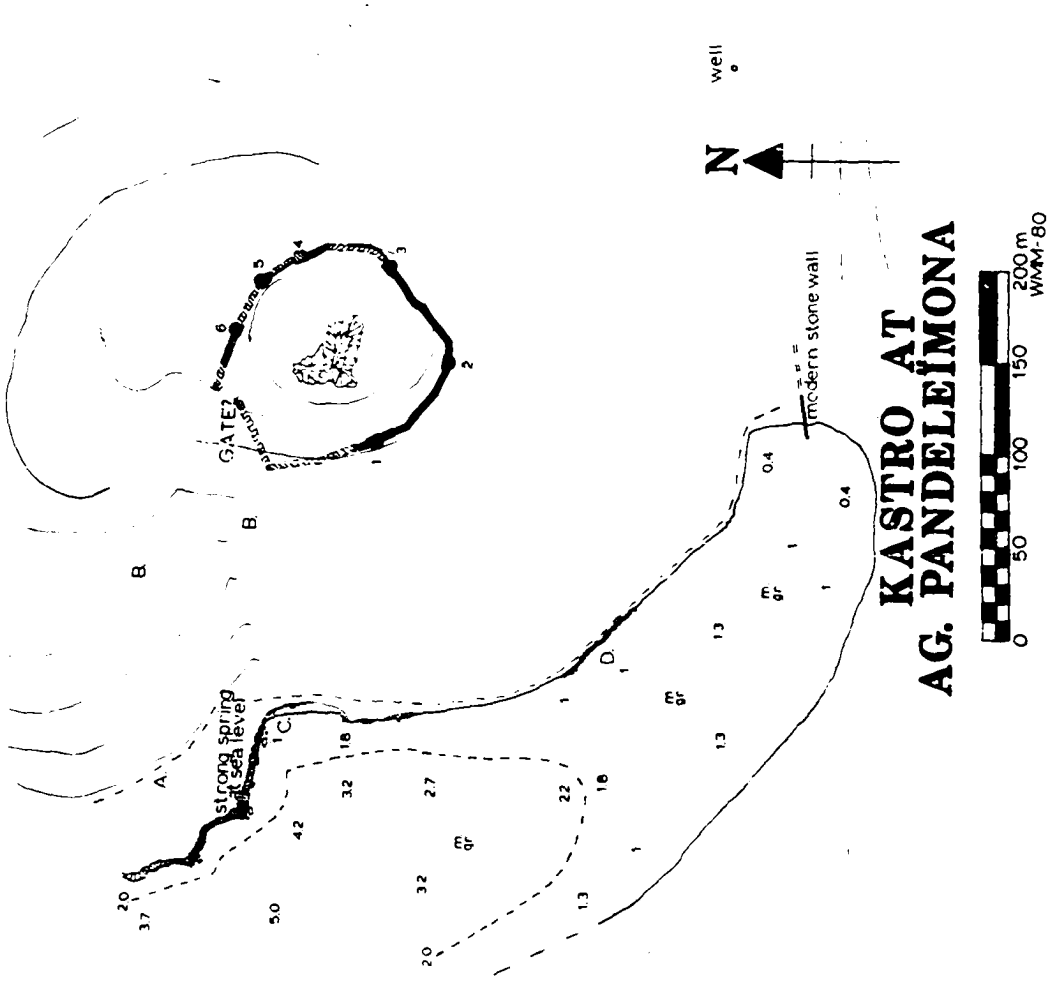

Fig. 9

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The kastro contains no internal structures and no cistern; accordingly, no rooftiles or diagnostic pottery were found within the fortress' walls. A drain spout which exits the wall between towers 3 and 4 must be for the release of groundwater; a small flat terrace of earth abuts the wall's inner face here.[10]

As notable as the consistently curved nature of this fort's groundplan[11] is the masonry style of its walls--trapezoidal blocks are laid in horizontal courses of varying height (see Pls. 3.F and 4.A).[12] This is the only hill fort on the western Akarnanian coast which is not at least partially built with some form of polygonal masonry.[13]

The Date of the Kastro. Since no diagnostic sherds were found within the kastro's walls, any discussion of its date must rest upon considerations of the structure's intended use and its construction. Considering the fact that semi-circular towers were built into circuit walls of the Hellenistic period to defend against artillery and the ram, it is likely this fortress was not constructed before the death of Alexander the Great.[14] Lacking a cistern, it was not designed to withstand a long siege and therefore, may have been built by the nearby community as a defense against pirate-like attacks. If Astakos was held by the Aitolians in the last half of the third century, this kastro may have been built at that time to withstand Illyrian pirate raids.[15]

C. The Settlement at Agios Pandeleimona (Fig. 9, at 'B')

Located downhill, northwest of the kastro where the terrain becomes more level, is an amphitheater-like fold in the hillside. Scattered

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throughout this area are quite a few coarseware sherds and rooftile fragments. Directly down the slope from here is a sand and pebble beach marked 'C' on the plan. Nearby, a strong spring empties into the sea at, or slightly below, sea level.[16] At least four walls are slowly eroding out of the scarp at 'C' and the pottery associated with the foundation level of these walls dates to the fifth century B.C.[17] As the scarp is full of coarseware pottery to a height of about 0.75 m from beach level, it seems that there has been a good deal of wash-down from the settlement on the slopes directly above.

The walls themselves do not betray what purpose they originally served; the two northernmost walls are parallel, off center with the beach, approximately 0.35 m thick and are set 3.1 m apart. They probably belong to the same structure (Pl. 3.C, D). The next wall is located 9.75 m along the beach to the south; it is 0.47 m thick. Perhaps a parallel wall exists 1.5 m to the south of it, but it is difficult to tell the thickness or line of this fourth wall owing to its poor state of preservation. During high tide on days when the west wind blows fiercely, these walls are inundated by the surf, pottery is washed from the scarp, and little by little, the evidence for reconstructing a picture (albeit limited) of this settlement is destroyed.

It is apparent that there was some sort of settlement here as early as the fifth century and at least another as late as the Hellenistic period. But, given our present information, it is impossible to tell whether or not the site was inhabited continually between the two periods. Since this all-weather harbor is at times exposed (see below), it

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is reasonable to assume that this settlement was dependent on Astakos. Agios Pandeleimona most likely represents Astakos' all-weather harbor; like a "hurricane hole" in the Caribbean, it served as a haven for Astakos' boats during periods of very bad weather. The community here never grew very large in its own right because it did not have sufficient nearby cultivable land and was too far off the Astakos-to-Oiniadai road. This settlement certainly had a name. Oberhummer's suggestion that it was Marathos is without supporting evidence,[18] Leake's suggestion that it was Astakos is unconvincing (see below), and Lolling's belief that this place, together with Astakos, was called Astakoi is too ingenious.[19] Even modern suburbs of Athens have names, and in the Plagia Peninsula, each cluster of kalyves, inhabited or not, carry some place-name. We simply have a settlement whose name, unfortunately, has not been preserved.

D. The Harbor (Cf. Figs. 4, 9 and 11)

Useful Maps and Charts: 9; 10; 11

The harbor of Agios Pandeleimona is fine but small. The most secure part is the southern cove although it is possible that the southeast extension of the northern cove may have been deeper before the heavy silting of the late nineteenth century (see above). If this was the case, it too would have offered good protection. The lower sea level in antiquity would have constricted the bay slightly, but not to any great extent.[20] The southern cove is landlocked; the northern cove is not, but still receives diminished wave action because the saw-toothed shape of the northern shore tends to dissipate the force of the

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swell. Agios Pandeleimona is a perfect foul weather anchorage for vessels under 20 m in length and up to 120 tons burden;[21] it can safely accomodate up to six of these, but would become dangerously crowded with more than eight ships of this size. During periods of very strong winds (F 6-7+; for the meaning of these values, see Appendix A, Table 2), only the southern cove is perfectly safe. It could accomodate only two or three 120 ton ships. Nevertheless, it might be safer to take one's chances in this harbor, than risk being blown ashore in Astakos Bay (see pp. 74-76).

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Notes to Chapter IV

[1] A remark of Lolling about visiting Agios Pandeleimona is particularly telling (Urbaedeker, CCIX): "Man lässt sich mit einem Boot dahin übersetzen, da der Landweg zu weit und zu beschwerlich ist."

[2] Cf. the remarks of Captain Mansell concerning "Port Platea" in his Remark Book of 1866 (OD 257): "Immediately south of Dragemesti Bay is the snug and land locked Port of Platea, protected from the westerly winds by the Ichinades Islands and encircled with thickly wooded undulating hills, this is the most sheltered anchorage along the whole coast.

"It has a moderate depth all over, 9 to 12 fathoms, muddy bottom, but there is neither village or fresh water, it is therefore but little resorted to ...."

[3] The acorns were a source of tannic acid used in the tanning of hides. On the evidence provided by the charts (nos. 1 and 7) and a remark of Captain A.L. Mansell (OD 257), we know that these structures were built sometime between 1819 and 1864. From a chance remark by Lolling, it seems they were out of use as warehouses by the 1870's (Urbaedeker, CCIX). Today, one or two families inhabit the shells of these warehouses with their livestock, and the last building to the south houses a small cheese factory. Yet, from chart evidence, it appears that the settlement increased from six to ten structures between 1864 and 1879. Probably when Lolling visited this area, the warehouses were temporarily abandoned; according to the fifth edition of the Mediterranean Pilot [Great Britain (1919 : 154)], this settlement was inhabited only when the acorns were harvested.

[4] OD 257.

[5] Great Britain (1880 : 299); cf. Leake (1835 : IV,8f.) who describes the wooded nature of this area and the existence of "red deer in abundance," fallowdeer and roebuck; cf. also the description in n. 2, above.

[6] OD 257.

[7] The descriptive phrases such as "rocky and thinly wooded," "thinly wooded," "bushes and scrub," "thin scrub," "scattered trees," occur all around Port Plateali (called Port Platea in OD 257), and more closely correspond to today's appearance than to the mid-nineteenth century descriptions.

[8] Leake (1835 : IV,4); Heuzey (1860 : 419-21); Oberhummer (1887 : 35); and Bölte (1930 : 1431).

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[9] Leake (1835 : IV,4) mentions that he can see this fortress as he passes the mouth of Agios Pandeleimona. Although he calls the bay Platea, his description is of Pandeleimona; he has merely confused the names of the two bays and applied them both to Agios Pandeleimona. Today, the fortress cannot be seen from the entrance to Agios Pandeleimona because the northeast side has been completely robbed away. This passage shows that it had apparently not yet been touched in Leake's day (1809).

[10] The spout measures 0.7 m wide and projects from the wall 0.5 m. Perhaps it was for a latrine; it is on the opposite side of the fortress from the settlement.

[11] All angles of the wall's line are greater than 90° except for the 90° angles displayed at the thickening of the inner face behind each semi-circular tower.

[12] The kastro does exhibit notching and chinking which, here and there, breaks up the regularity of the coursing (cf. Pl. 4.A, B).

[13] It would be tempting to attribute this stylistic difference to the fact that the Aitolians, not the Akarnanians, built this fortress. But the true reason is probably to be found in the horizontal fracture planes of the limestone employed for the building blocks (cf. Pl. 4.A).

[14] In Hellenistic times, the rounded tower was viewed as the best type, although the expense and difficulty (i.e., time consumption) in producing such a tower often mitigated against its being built in this form. The towers in this fortress are carefully built and well bonded to the circuit wall (cf. Pl. 4.C). For a general discussion of Hellenistic rounded towers, see Marsden (1969 : 143-47). The closest parallel he cites is found in the city circuit of Boukation in Aitolia (see his Diagram 12(d) on p. 162). A similar tower can also be seen in the fortifications of the akropolis at ancient Methana about 1 km from a small village called Vathy. Only the foundations are preserved today, but nearby, built into the apse of a small ruined church can be seen the curved blocks which originally composed the tower.

[15] The high level of anxiety experienced by the coastal inhabitants of Epiros and Akarnania during the latter half of the third century might have provided the impetus for building such a fortress. Pottery finds from another Akarnanian coastal fortress in the Plagia Peninsula, Kastri Lithies, indicate that it was being used during these anxious years; cf. pp. 194-95. For this period in general, see pp. 332 ff.

[16] In the valley to the north of hill 55, there are a few wells behind the warehouses and one further to the east, near the dirt road which leads up the valley toward the main road to Astakos. I have tasted water from this last source and concur with the judgement passed

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by Lieut. Smyth in 1893; it is indeed "water of indifferent quality" (OD 258, p. 3).

[17] See Appendix B, nos. 1-4.

[18] For the refutation of Oberhummer's view, see Bölte (1930 : 1431).

[19] Urbaedeker, CCIX.

[20] For the fifth century sea level, see Appendix E. The soundings given on Chart no. 10 show that the bay would constrict considerably only in the northern sector; but see pp. 56-57 for evidence of silting in this sector due to the effects of deforestation.

[21] It is genarally accepted that an average size for an ancient merchant vessel is about 18 m for its length, about 7-7.5 m for its beam, and a capacity of about 120 tons burden; see Landels (1978 : 163-4). Whether or not this is correct is not my concern here. I am using these figures out of convenience. It is quite possible that the types of coasters which utilized this anchorage were a good deal smaller than the average sized vessel quoted above; cf. Casson (1971 : 337-38).

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CHAPTER V

Astakos

A. The Valley (Fig. 2)

Useful Maps and Charts: 19; 20; 21, T.4

It was stated previously that the Astakos Valley forms the southernmost of Akarnania's three main coastal valleys. Narrow but rich, it stretches from the head of Astakos Bay northward for about 9 km before it merges with the inland mountains. In Leake's day the valley was well cultivated and the surrounding hills were thickly wooded and full of deer.[1] Today the hills are barren and the deer have been replaced by goats. The valley itself is not heavily grazed and is still well cultivated thanks to the irrigation water pumped from a few wells. The major crops are cotton, tobacco and maize; there are also small groves of orange and olive trees. Until recently (and presumably in antiquity) cereal crops were sown, but it is now cheaper to import these grains than to grow them.[2]

Both the literary record and the archaeological evidence agree that this entire valley was controlled and cultivated by Astakos, which stood as the major port at the origin of a principal route to the interior.

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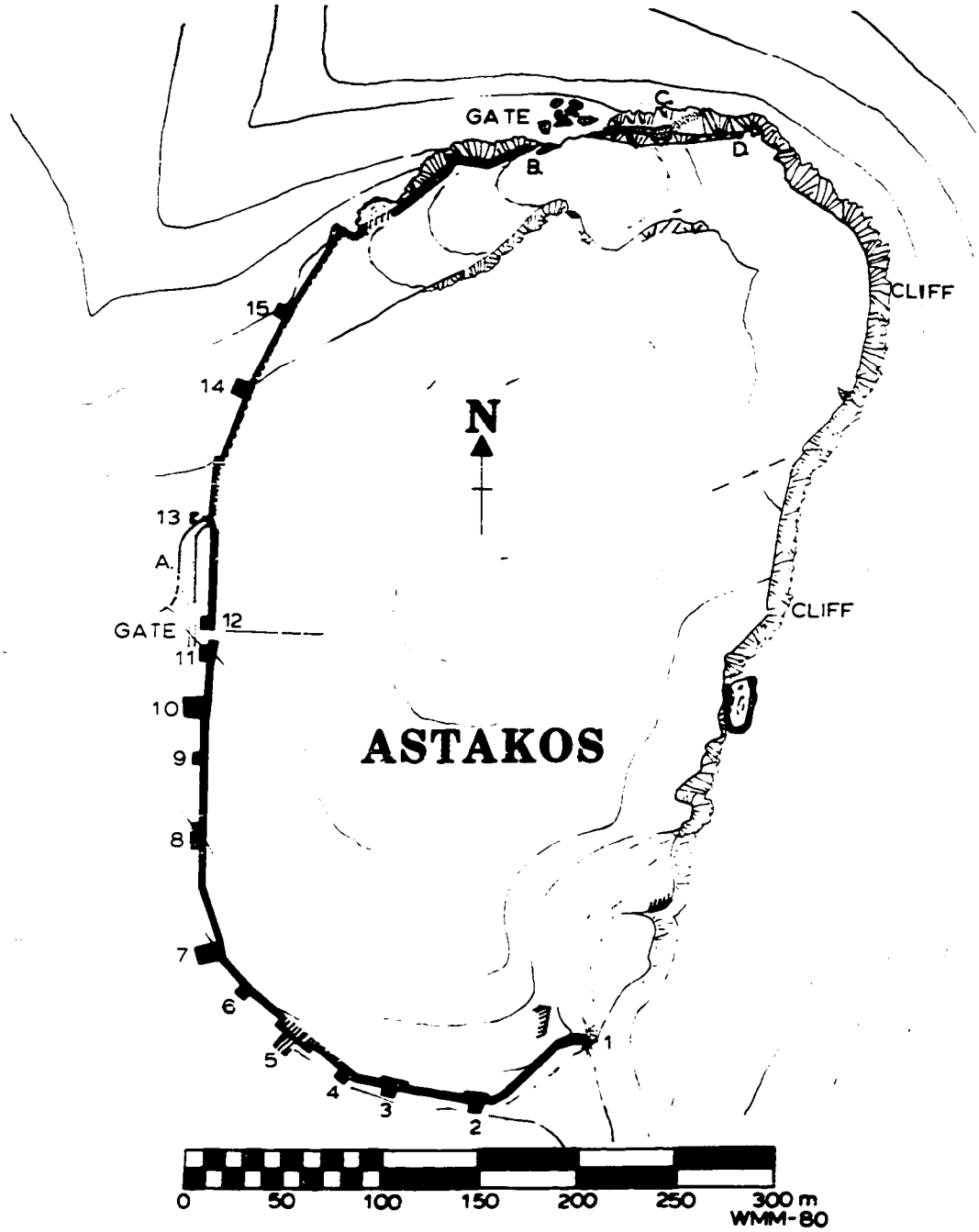

Fig. 10

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B. The Ancient City of Astakos (Fig. 2, site 3; Fig. 10)

The ancient site of Astakos sits a little less than 2 km from the head of the bay atop a small plateau on the lower slopes of Mt. Veloutsi. This plateau is separated from the main shoulder of the mountain by a small bridge of land (the saddle just north and west of the western gate). To the east, the site is separated from the valley by a cliff some 20 m in height which extends along the full length of the plateau.[3]

Leake's identification of this site with a town called Krithote is incorrect, since Krithote is properly the name of a cape not a city; Leake simply misread Strabo's text.[4] The Frenchman Heuzey was the first to correctly identify the site as Astakos. This town was clearly larger and more important than the unwalled settlement at Agios Pandeleimona (Leake's Astakos) and was more likely to have been recorded in the historical record. A fragment of a stamped rooftile bearing the last four (and possibly five) letters of the town's name, found at the site by Rhomaios, further supports Heuzey's identification.[5] The conclusion that this site is ancient Astakos is generally accepted today.[6]

The ancient remains at this site are very poorly preserved; this poor condition had apparently already been reached by the nineteenth century because everything described in the accounts of Leake and Heuzey is visible today.[7] Despite this poor state of preservation, the line of the circuit can be traced fairly accurately from tower 1 at the southeast corner of the city[8] to the remains of a gate (Fig. 10, at 'B')

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at the northern end of the city. In this stretch, there are only three areas where the remains are so confused or non-existent that the wall's line becomes hypothetical.[9] The circuit wall varies in thickness between 2.5 m and 3.0 m and exhibits a hodgepodge of towers along its length. Only two pairs of towers resemble each other (2 and 3, 14 and 15) so it is probable that this ancient circuit is the product of more than one building period; in fact, this is indicated by the remains at tower 13 where two separate towers have been built in almost the same place, one above and over the other.

The masonry of the circuit wall is not all of one style, but the differences are not so clear-cut as at the harbor fortress at Oiniadai. Here, more than one building period is surely the cause of this multiplicity of styles. Tower 1 and most of the curtain wall along the southern side of the site display a partially coursed trapezoidal style with much notching and chinking (Pl. 5.A, B). The towers along this stretch are too poorly preserved for one to determine any masonry style, but as they generally exhibit drafted corners and since the surrounding fallen blocks are mostly trapezoidal in shape, the masonry here was probably of a coursed or partially coursed trapezoidal style as well. A small section of wall preserved to six courses exists north of tower 12; it is regularly coursed with trapezoidal blocks (Pl. 5.C). There is a short stretch of coursed polygonal masonry north of tower 13, but at the jog, it changes into a coursed trapezoidal style, in places almost ashlar; this seems to continue past towers 14 and 15 to the northeast. Here the wall becomes obscured by later masonry.

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It should be noted, the possiblity exists that the superstructure of this wall was composed of mud brick. The wretched, uniformly 'shaved off' appearance of the walls (cf. Pl. 5.D) and the existence of countless rooftile fragments near the circuit lend support to this possibility. A parallel exists in the lower city walls of Alyzeia which were almost certainly composed of a mud brick superstructure on a stone socle.[10] At Alyzeia, the walls are up to 5.5 m in thickness, whereas here they are only up to 3.0 m thick. The walls at Astakos were certainly less massive than those at Alyzeia and this may account, partly, for the large number of towers on the south and west sides of the city. These towers may have been designed to give strong flanking protection to a relatively low circuit wall of mud brick.[11]

The Temple of Zeus Karaos. About 200 m west of the western gate, across the saddle and up the hillside, is the poorly preserved temple of Zeus Karaos. The attribution of the temple to "Zeus of the heights" comes from an inscribed statue base found here and published by Rhomaios in 1918.[12] He says very little about the temple structure, but believed it dated to the fourth century. The Greek Archaeological Service had conducted exploratory excavations along the temple's foundations just prior to my first visit to the site in 1978. We will have to await their preliminary report to discover the date of the structure, its plan and a full discussion of the finds.[13]

The Water Supply. On the north side of the site, in the cliff face below the level of the city, is a strong year-round spring of excellent

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tasting water (Fig. 10, at 'C'). Originally there was a gate at 'B' which led out to a road, cut in the face of the cliff, leading down to the spring below. Closer examination revealed that the road's course can be traced back into the city. At 'B,' the road doubles back on itself and heads southeast; it then skirts the high rocks directly south of 'B' and heads up the hill, south, into the city. The evidence for this road consists of a drain cut into the bedrock along the western side of its course as it climbs the hill.

Sometime during the Middle Ages, after the medieval builders had also built a gate at 'B,' the upper one-half of the road northeast of 'B' cracked away from the face of the cliff. The road now appears as seven huge chunks of rock in the field below. But the lower half of the road still exists in situ and leads down to the spring area (Pl. 6.B). Here the cliff has been trimmed back so as to make a large rectangular slot (some 4 m deep and 9 m long) which extends vertically up the cliff face to the level of the city above (Pl. 6.C). Water is still flowing from this area, although the modern town of Astakos has tapped the spring; a large pipe and cement box placed over the spring itself kept me from searching for traces of an ancient spring house or basin.

Further east at 'D,' half-way up the face of the cliff, is a cave. Water must have once flowed from here too because a water channel and shallow basin are cut into the cave's floor. Now the water exits from the rock immediately beneath the cave near the path that leads from the valley below.

Area 'C' is clearly the ancient spring of the city which was con-

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nected to it by a convenient road. How this area was defended during periods of war is unclear. No traces of any protective towers, external gates or walls remain. Perhaps the heights afforded by the sheer cliff gave enough protection, and the water was raised in buckets. Yet this seems to be an inadequate explanation. Under cover of darkness, it would be easy for an enemy to throw pollutants into the spring basin; certainly some sort of additional protective measures must have been taken. Perhaps an original intention to inclose the spring area was never realized. But whatever the answer, it must account for the time and effort expended in cutting tons of rock out of the cliff face to make the rectangular slot.

The City's East Side. It is difficult to determine the course of the wall to the east of area 'B.' Except for a few stray blocks still relatively in situ along the eastern side of the city, one might reasonably assume that this area was not walled--that the cliff afforded adequate protection (Pl. 6.D); yet this was apparently not the case. The lack of remains here may be due to the same sort of process that almost obliterated the road between areas 'B' and 'C,' i.e., fragmentation of the cliff face. But as no ancient blocks appear in the field below, any explanation which provides for the robbing out of the blocks will do. We will never know the exact nature of the city's defenses here.

North of tower 1 there is a natural amphitheater in the hillside and the cliff below it is not very formidable. Here the defenses do not seem particularly strong; there are a few retaining walls which may

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have acted like the ones inside the eastern proteichisma at Kekropoula.[14] Nevertheless, the wretched preservation of the city's defenses and internal structures here makes it very difficult to determine the original nature of this area.

Physical Nature of the City. The most that can be discerned within the city circuit are the partial foundations of a few substantial buildings due east of towers 8 and 9, the partial foundations of a substantial building incorporated into the now ruined church east of the tower 13-14 area,[15] scattered foundations for rooms or buildings which are partly cut into the bedrock and therefore still remain,[16] and a quarried-away clear space (a street?) about 4.5 m wide which runs east-west from a point directly north of tower 2. I have already mentioned the road which leads up from area 'B.'

Approach to the City. There are two gates to the city and appropriately two methods of approach. One route leads directly up from the harbor, climbing onto the shoulder of Mt. Veloutsi, well to the south of the site. It then continues north along the shoulder to the gently sloping saddle connecting the mountain with the plateau, and finally through the western gate. The other route approaches from the main valley to the east. It comes up the ravine to the north of the site, past the spring area and either up through the northern gate at 'B' or turns southwest to ascend to the saddle and the western gate. This latter route was used during the medieval occupation of the site.[17]

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C. Astakos Bay and Harbor (Cf. Fig. 11)

Useful Maps and Charts: 1; 7; 8; 11; 12; 16; 18; 19; 20; 21,I.4 and T.4

Astakos Bay is large: 2.7 nm wide at its mouth and 3.2 nm long.[18] The water depths are considerable and the bottom is steep-to very close to the shore along the northwest and east sides of the bay. Today, the head of this bight is quite shallow and muddy--an obvious result of the deforestation discussed earlier (pp. 56-57).

Like the other large bays at Mytikas and Palairos, this one is exposed to southern quadrant winds which are funneled by the mountains directly into the Astakos Valley. If the wind blows very strongly (F 6 and above) for more than a few hours, it causes this harbor to become unsafe for small boats. Since southern wind frequencies are highest in November, December and January, it is clear that this bay is not (nor was it ever) a favorite winter storm haven.[19]

A quirk of this bay causes onshore southwesterly winds to be felt when the "outside" prevailing wind is blowing strongly from the west. These westerlies cascade down the leeward side of Mt. Veloutsi and are drawn parallel to the shore, immediately adjacent to the shoreline. For the first two-thirds of the bay this southwest wind is felt only in a thin band of disturbed air some 50-100 m from the shore. At the head of the bay, this band widens to a few hundred meters as the air is drawn up into the valley (cf. Fig. 11).[20]

Astakos Bay is thus prone to local onshore winds when the air outside the valley (i.e., the general trend) is flowing from the west and

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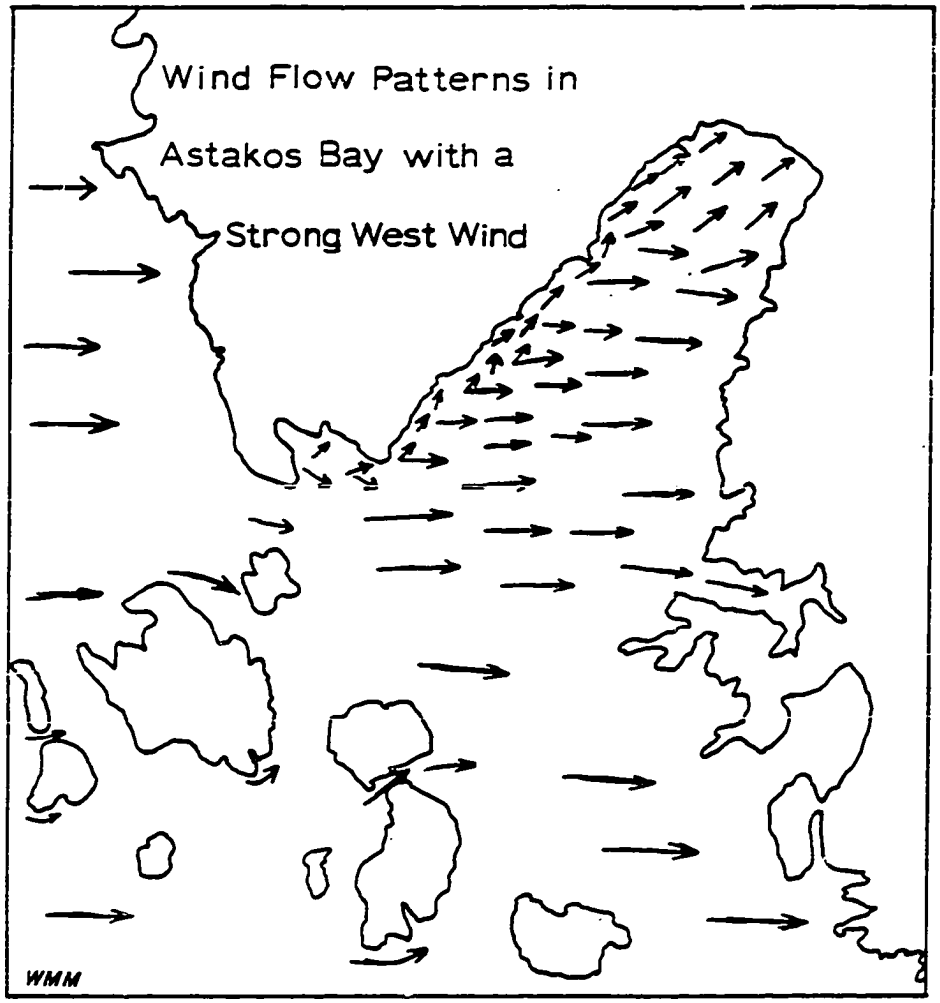

Fig. 11

southwest. Since winds blow from these directions during most of the year, some form of onshore wind is frequently felt at the head of the bay. Because Astakos Bay is so long, a strong onshore wind can generate a nasty chop at the head of the bay. Anyone wishing to use this bight as a year-round harbor would need to construct some sort of protective

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mole to break the force of the onshore chop; one might expect, therefore, to find an ancient mole here.[21]

Unfortunately, any attempt to locate this mole is confounded by the fact that the modern town of Astakos has grown tremendously since the early nineteenth century, and in the process has built out its waterfront by constructing a cement quay. Leake mentions the existence of a "rough mole, where several boats of Kefalonia are now lying," in 1804.[22] This mole is shown on BA 1623 (Chart no. 1) of 1819(?), but thereafter disappears; it does not appear on Mansell's survey of 1865 (Chart no. 7) and was either covered by landfill or incorporated into the present town pier which first appears on surveys of this bay in the late nineteenth century.[23] I have searched in vain for traces of an ancient mole; I believe one existed, and conclude that it formed the substructure for the mole Leake saw and then was incorporated into the modern cement pier.[24]

D. Astakos to Mytikas: Topographical Remarks (Cf. Fig. 2)

Useful Maps and Charts: 19; 21,T.4

As elsewhere along this coast, the easiest way to reach Mytikas from Astakos is by sea; the distance is only some 19 nm. If the same criteria apply as stated previously (n. 40, p.54), a fast trireme could make it in a little over two hours; a loaded merchantman would take about 3½ to 4 hours once it had rounded Cape Tourkovigla (ancient Krithote).[25] To reach Tourkovigla, the boat would have to set out early in the morning and use the katabatic winds rolling down off the southern

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slopes of Mt. Veloutsi.[26] It would then have to await the onset of the sea breeze which begins around 1000 hours and blows hardest around 1600 hours. A trip by sea would probably have taken from before dawn to mid-afternoon.

By land, the journey could have taken up to two days. As there are numerous possible routes, the time would naturally have varied.[27] One possible route continues up the valley of Astakos, keeping to its west side. Past the town of Karaiskakis it turns to the west and follows a pass between Mt. Veloutsi and Kirkovouni along the Astakolangadha to the seacoast. From here, it follows along the steep shoreline to the southeast corner of the Mytikas Valley. Rhomaios reports the existence of an "ancient tower of large stones" called Kastellaki one hour east of Mytikas along the shore. It presumably guarded the entrance to the valley along this road.[28] I unfortunately did not visit the site.

The second possible route continues up the Astakos Valley past Panagia; where the modern road turns east to climb out of the valley, this path continues north, following the valley up into the mountains past Agioi Anargiroi and Agia Paraskevi to Vliziana. A path leads from here to Archondochori and joins with traffic coming from the interior.

An alternate course utilizes the main route from Astakos to the interior which the modern road currently follows. At Panagia, the road turns to the east and climbs up out of the valley to a saddle and then down a pass between Kalovouni and Chrisovouni. Here there is a north-south upland valley which runs north to Bambini and then northwest to Aetos. From here, a road leads westward, up over a ridge, to Archondo-

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chori and then southwest down through the pass between the massifs of Boumistos and Mega Oros, finally debouching into the northeast corner of the Mytikas Valley.

This last route was the main one used by those wishing to reach the cities of the interior. Phormio, for example, would have marched inland along this course in 429.[29] The other two routes are little more than goat and sheep tracks in many places, but are adequate for travel on foot and for pack animals.[30]

Heuzey notes a number of fortifications along these routes which I have not seen. Near Archondochori, on the road to Aetos, is a small enceinte called Kastellaki which he interprets as the akropolis of some nearby, unlocated village. He also says that the route leading to Astakos "est encore marquée par les fondations d'une tour antique et par quelques tombeaux creusés dans le roc."[31] Where this is exactly, he does not say. Nothing apparently guards the road which debouches into the north-south upland valley. The nearest fortified community is that of ancient Koronta near Chrysovitsa, but it cannot be said to control the pass into Astakos.[32]

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Notes to Chapter V

[1] Leake (1835 : IV,7ff.).

[2] According to the natives of Astakos, Kato Kandhila (in the Mytikas Valley) and Palairos, until the mid-twentieth century, all cereals consumed were grown locally. For the nineteenth and twentieth century evidence, see Leake (1835 : IV,7) and Great Britain (1944 : II,54ff.); for antiquity, see Xen. Hell. 4.6.1 - 4.7.1.

[3] Leake (1835 : IV,6) estimates the cliffs at about 30 ft. high; the actual height is about twice his estimate.

[4] See Bölte (1930 : 1431) and Leake (1835 : IV, n. 2 p. 4; p. 6).

[5] Rhomaios (1918 : 117).

[6] For all the evidence, see Heuzey (1860 : 420 ff.) and Oberhummer (1887 : 35).

[7] It is true that the site was quarried during World War II by the Germans and Italians for the building of gun emplacements overlooking the harbor, but apparently no great damage was done by this action.

[8] Leake's observation (1835 : IV,6) that tower 1 is coeval with a church constructed within the fortress is simply not true; tower 1 is the terminus of the city circuit and must pre-date the church by numerous centuries.

[9] These areas are tower 5, tower 13 and portions of the stretch between 'B' and tower 15. I am confident that my restoration of the wall at tower 5 is correct. At tower 13, there appear to be at least two building phases to the Hellenic wall, but this is confused by the overbuilding of a cobbled road leading up a ramp to a break in the wall. Beyond tower 15 there is much medieval overbuilding and one must assume that the ancient wall took this course as well.

[10] Cf. p. 111.

[11] Lawrence (1979 : 344-45) notes that the general thickness of the curtain in other Greek examples is between 2.5 and 3.5 m, and that it is exceptional to find a thickness such as Philo advocates, i.e., 4.6 m (cf. Philo Byz. Poliorcetica 1.11). Alyzeia's walls are the exception, therefore, not the norm. Nevertheless, the perceived military capabilities of one's enemies which caused Alyzeia to construct a wall 5.5 m thick, probably also caused Astakos to build numerous towers onto her circuit. At both cities, the walls are quite open to attack where these extra precautions occur.

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[12] Rhomaios (1918 : 117-20).

[13] Since the site was fenced and no guard was present, I did not minutely investigate the temple area; my observations do not differ significantly from those of Heuzey (1860 : 420).

[14] See p. 145 and n. 17.

[15] We know from an inscription reported by Rhomaios (1918 : 120-21) that Artemis was probably worshiped at Astakos. Perhaps these substantial foundations belong to an Artemis temple; but of course we have no way of verifying this possibility without excavation. Four reused ancient blocks are incorporated into the walls of the original church structure which has been repaired and expanded at least two times since it was originally built; cf. Heuzey (1860 : 419).

[16] These foundations are most easily visible directly north and east of tower 2.

[17] There is a cobbled road surface, badly overgrown, which comes up through the ravine and connects to the cobbled ramp that leads up to the later gate at tower 13. The paving is exactly similar to a patch which leads through the medieval enclosure within the ancient walls.

[18] My measurements were taken from Chart no. 11 as follows: mouth = Akra Tourkovigla to Glossa Pogonia; length = from the mouth to the head of the bay.

[19] See Appendix A, Tables 1 and 4. The southern quadrant frequency values (in percentages) of F 6-7 winds at Dhoukaton Light for the months of the year are as follows: Jan., 3.95; Feb., 2.23; Mar., 1.56; Apr., 0.74; May, 0.24; June, 0.24; July,--; Aug.,--; Sept., 0.24; Oct., 0.40; Nov., 4.44; Dec., 5.13.

[20] I have observed this effect upon numerous occasions. Once during the winter of 1979 (Jan. 5), the waves brought in by this localized west wind were flooding the road which runs along the shore to the west of the town mole. The local fishermen, undaunted by all this, still put to sea in their small boats, but had considerable trouble loading their nets and getting underway; it was blowing about F 5-6.

[21] Cf. Ps.-Skylax 34 who specifically mentions that there is a λιμήν at Astakos. It is quite reasonable to expect some sort of permanent harbor installation.

[22] Leake (1835 : IV,5).

[23] The pier first appears on BA 1939 (Chart no. 11) in the original 1893 edition of the 1892 survey.

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[24] On BA 1939 (Chart no. 11) there appears the sign ⁺ a short distance to the east of the easternmost section of the town's waterfront quay. The submerged rocks thus indicated turned out to be a small irregular platform of undressed stones, cemented together so as to present short southeast and northeast faces that meet in a corner. If a square was drawn around the outside of this irregular platform, it would roughly measure 3.5-4.0 m per side. As the platform is surrounded by mud on all sides, it is not part of any ancient mole. And since there is apparently a corner and these stones are cemented, whereas other surrounding stones are not, this is not a dumped pile of ballast. The depth (roughly 1.7 m) seems to indicate an ancient date of construction. Is this the ruined base for some sort of harbor marker? It is perhaps better to reserve judgement in light of such ambiguous evidence.

[25] This cape is the terminus of the large mountain which forms the northwest shore of Astakos Bay. Leake (1835 : IV,7) first made the identification of this point with the ancient Cape Krithote and he is certainly correct; cf. Ps.-Skylax 34: ἡ Ἀλυζία .... εἶτα ἄκρα Κριθωτὴ καὶ αἱ Ἐχινάδες καὶ πόλις Ἄστακος ....

[26] For the katabatic wind effect, see Appendix A, p. 407.

[27] These routes are represented by dotted lines on Map no. 21,T.4.

[28] Rhomaios (1930 : 144) actually states that the πύργος is one hour south of Mytikas. If this is not a typographical error, he too exhibits the confusion in directions shown by many researchers along this coast; cf. p. 130 n. 72.

[29] Cf. Thuc. 2.102.1.

[30] The modern Greek name for such a path is ἡμιονικὴ ὁδός; an ἀγροτικὴ ὁδός is one of these mule trails that has been bulldozed so a tractor can use it.

[31] Heuzey (1860 : 418).

[32] The best candidate for ancient Koronta is located south of Chrisovitsa which is about 2.5 km to the south of the junction of the main road from Astakos and the north-south upland plain. I myself have only followed the longest route which passes through Aetos. For Koronta and its location, see Heuzey (1860 : 418).

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CHAPTER VI

Alyzeia

A. The Mytikas Valley (Cf. Fig. 2)

Useful Maps and Charts: 12; 20; 21,T.4

Situated half-way up the Akarnanian coast is the large broad valley of Mytikas. Hemmed in on all sides by formidable mountains, the valley is not easily accessible except through a pass in its northwestern side which is utilized by two of the routes from Astakos described above. There are a few other routes leading into the valley, but they are difficult and useful only to those on foot. Two tracks of limited value approach from the south and north along the shore, another comes through the pass below Glosses and another down the pass north of Kandhila. The two passes that lead north (above Kandhila and Glosses), and the one leading east (to Archondochori) are blocked--the northwestern one by the ancient city, the central one by a dam, and the northeastern one by a tower.[1]

The valley itself is rich in good farmland, but it lacks a sufficient year-round water supply for the intensive cultivation of the soil. The slopes of the surrounding mountains are devoid of vegetation except for scattered scrub brush, and as a result, the land cannot hold the water when it rains.[2] During periods of rainy weather the passes are transformed into torrents as the water rushes down the remmas to

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the sea. Nevertheless, a limited amount of water is retained by the limestone mountains and small springs appear at a number of places around the valley. Yet the area is aptly named Xeromeros; the water supply is greatly restricted in summer and it frequently has to be rationed both here and at Astakos. Before the great deforestation of the late nineteenth century, the water situation must have been somewhat better. There is also some limited evidence that during the fourth century, the runoff was not as violent as it is today, i.e., that there was either less rain or more ground cover.[3]

Today, the major crops produced are maize, almonds, tobacco and olives; family groups grow their own fruits and vegetables, and grapes for wine and tsipouro.[4] The upland areas support some cattle and goats, and a few herds of sheep are grazed here and there, but in general, the Mytikas Valley is cultivated rather than grazed.

B. Pirgos (Fig. 3, site 5)

Situated on the north side of the Archondochori pass about 1 km from where it enters the Mytikas Valley is a small excellently preserved tower (P. 7.A-C). It sits above the road on an artificially leveled rock ledge, overlooking the lower end of the pass, the southern half of the Mytikas Valley and the island of Kalamos. It was first reported by Leake who actually did not see the remains because the "Kleftes" were in control of this area when he passed through.[5] A half century later when the political climate allowed, Heuzey visited the site and wrote a brief description of the tower.[6]

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The tower is perfectly preserved to a height of five courses except at the eastern corner where a deeper foundation course exists due to the irregularity of the rock.[7] The bedrock has been trimmed down on the northwest, southwest and southeast sides, and where possible, it is incorporated into the tower at the first course level. Wedge marks are visible here and there, an indication that the blocks of this tower were quarried from the site. A peculiar block projects from the southwest wall which once formed the lintel of a gate adjacent to the tower, blocking access to the tower's door; the free standing jamb has long since fallen away (Pl. 7.B).[8] As can be seen in Pl. 7.B, the cornice blocks are still in situ on the northeast and southeast sides. The height of the tower from here to the base of the first course is 5.3 m. The door, preserved in the southeastern side adjacent to the south corner, is 1.95 m high and was originally about 1.65 m wide. Both jambs are cut to provide a door stop and the western jamb has two holes in it which once received the door bolts. The inside of the southwest wall by the door is cut to receive an angled ladder which gave access to the archer's slits of the second floor. If bolt projectors were mounted in this upper level, the second floor would have been solid with a trapdoor giving access to the ladder. Since the floor boards of this level merely rested on a thin ledge at the top of the second course (i.e., the block composing the second course was slightly thicker than the third course block set on top of it), some sort of support (props?) must have been provided from below. The external dimensions of the tower measure 5.65 m X 5.65 m.

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The archer's slits were more numerous on the side facing inland (4) and on the one overlooking the road (3). The slits of the northeast wall (the one facing inland, up the pass) are arranged in two pairs--one in the fourth course and the other, directly beneath, in the second course. There are three slits in the southeast wall--two in the fourth course, and one lined up between them in the second course below. The remaining two sides display two slits each, in the fourth course. All slits run the full length of the course (generally 1.0 m) except for the lower pair in the northeast wall which are cut 0.15 m into the top of the first course. This latter type is similar to the three preserved examples in Oiniadai's harbor fortress. The slits are approximately 0.2 m wide.

Cuttings exist to show that a beam about half a meter thick supported the roof which ran from the southeast to the northwest wall. We surely have the full height of the structure.[9] No fallen blocks lie nearby, and on the slopes below, the few fragments of Lakonian roof-tiles obviously came from the destroyed roof.

One feature of this tower is worth noting before considering its function and date. It was apparently clamped throughout with wooden swallow-tailed clamps, a technique utilized with some regularity in many of the towers at Astakos. Some of the now empty, but in situ, clamp cuttings can be seen on the inside of the tower at the southeast corner; here a few of the joints have cracked enough to make visible the empty cuttings in their original alignment.[10]

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Function and Date. Soldiers in this tower acting alone would not be able to stop an army marching down through the pass. But if this strongly fortified position was utilized as the cornerstone of defensive deployment of troops across the bottom of the gorge and on the surrounding hillsides, a medium-sized force would be able to prevent the passage of an army down through this pass.[11] Prior to the deployment of such a defensive line this position could have served as a command post for scouts placed along the route to the interior. And since this tower is in full view of Kalamos Island as well as the harbor, it could also have acted as a signal station to warn the valley of an enemy's approach and to summon forces bivouacked below to come help block the pass.

Most likely, Pirgos was constructed at some time during the fourth, third or second centuries; the conscious treatment of the drafted corners and the placement of arrow slits obviously intended for bolt projectors would indicate this. The historical circumstances of the last thirty years of the third century would accomodate such a tower, but as our knowledge of this area historically is so paltry, it is best to remain cautious.[12]

Heuzey mentions the existence of a ruined fortification built of "pierres sèches" next to the ruins of a Byzantine tower on the opposite side of the pass, atop a peak. I searched for these remains from Pirgos with field glasses, but did not locate them.[13]

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C. Kastri (Fig. 3, site 4; Fig. 12)

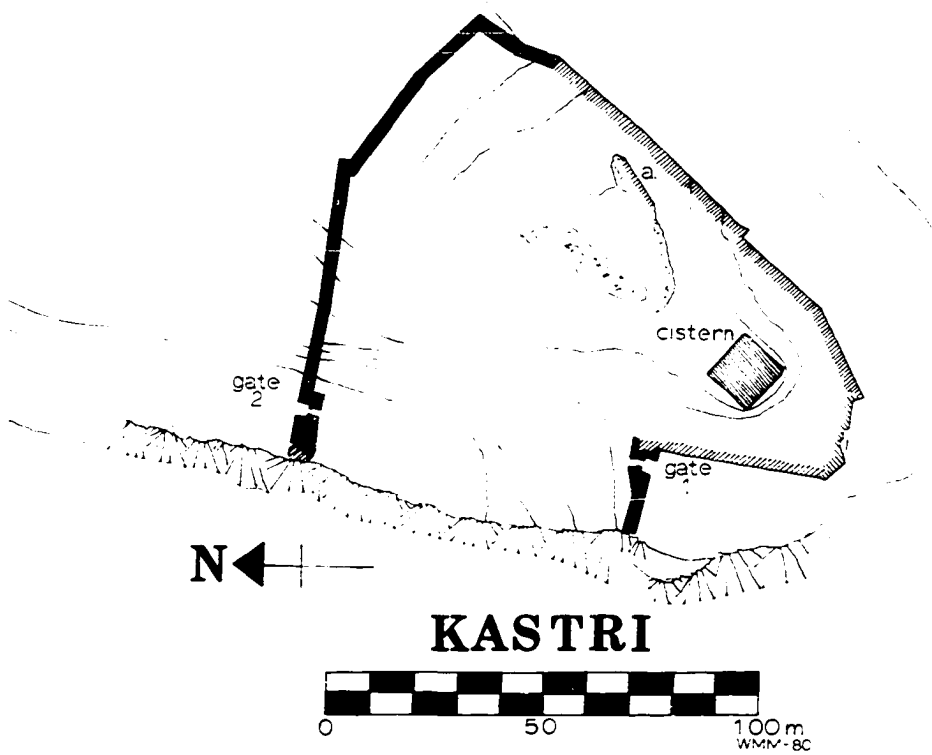

Fig. 12

Overlooking the valley from its eastern side is a small fortress on the same general scale as the one at Agios Pandeleimona. The site's location is wrongly noted on Map 21,T.4 and should be repositioned about 1 km south on peak 506 which the map calls Sokha. The site can be reached from the valley after an arduous climb straight up the side of the mountain, or from the back side by a track from Archondochori. Both approaches involve a scramble up the mountain and consume about two hours -- less, if you know the paths. The back side approach is

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longer in distance but somehwat easier since the grade is much less steep.

The fortress itself sits atop a rocky peak with sides that fall away precipitously on the west. Since this side is easily defensible, the two gates providing access to the interior are located here. Heuzey's observation that one gate is larger than the other is not true; they both are approximately of the same size and design (Pls. 7.E and 8.A).[14]

The masonry of Kastri is similar to that seen at Oiniadai in the harbor fortress. The walls are built in a coursed polygonal style (Pl. 8.B,C), but all the jogs and gate corners are composed of trapezoidal blocks (Pl. 8.C,D). Two drafted corners are evident: one in the jog north of gate 2 and one in the jog on the eastern side, directly east of the cistern (cf. Fig. 12 and Pl. 8.C,D). As elsewhere, the numerous wedge marks in the surrounding bedrock indicate that the building blocks were quarried from the site.

Inside the fortress are two notable remains, a rock-cut cistern and a bas-relief carved into the bedrock at 'a,' on a vertical face. The cistern is typical of such Akarnanian hill forts and indicates that the fortress was intended to accomodate a garrison or force for extended periods of time.[15] Furthermore, the placement of this fortress is too remote and too perfectly situated for surveillance purposes to be considered merely a point of refuge for some nearby village.[16] As Heuzey remarked, from here the channel both inside and outside Kalamos Island can be seen. With a set of pre-arranged

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signals, advance warning could be sent to both harbor and city of an approaching enemy.[17] Due east of the cistern there is a small concentration of rooftiles, the only fired clay I saw at the site (except for the lip fragment of a coarseware bowl). These tiles probably came from the roof over the cistern since there was no evidence at all of any structures within the walls (see n.15).

The bas-relief is described by Heuzey in some detail.[18] I need not repeat his observations verbatim except to note that the figures portrayed here obviously must have some significance for the force stationed here. Considering the snake next to the seated man holding the staff, it is logical to interpret the figures of the left panel as Asklepios and Hygeia (Pl. 8.E). The right panel probably portrays the patron deities of warfare, Zeus or Ares and Athena. It has been pointed out to me by Professor T. D. Boyd that the general aspect of this work is very Hellenistic and that the pose of Zeus/Ares has a prototype in Alexander statues of the Lysippan School. We thus have deities of war and appropriately, of healing. I can not see in this relief personifications of war and peace;[19] the sentiment expressed is appropriate to times of war -- Zeus/Ares and Athena will help you fight, and should you receive a wound, Asklepios and Hygeia will heal you.

There is another carved figure at this fortress which appears on the inner wall next to the western side of gate 1 (Pl. 7.E, at arrow). Today the figure is badly weathered, but still visible enough to allow one to discern a man resting on a club.[20] Again this figure, presumably Herakles, is a Lysippan type similar in pose to the well-known

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Farnese Herakles.[21] Heuzey's interpretation that Herakles was thus the patron or protecting deity of the fortress receives some corroboration from a similar "Herakles at the gate" at Thasos.[22] He further believes that the Herakles is modeled after one of the Lysippan statues at the local shrine of Herakles in the valley.[23]

As stated above, I found only one sherd, though I was at the site a total of seven hours, on two separate trips. Others who have been to this site also reported to me that they had found no pottery. This is rather peculiar considering that even the clandestine digging of the locals near area 'a' has turned up no sherds; there is also no pottery down the slope from the fort on any side. Although any argument from silence is dangerous, we might tentatively conclude for the present that the fortress was not garrisoned for a long period of time. A great deal of care went into making this observation post, but apparently (if I am correct) the presumed need for it quickly evaporated and it was left, largely unused.

The Date of Kastri. If we assume that the pose of Zeus/Ares comes from Alexander types, and that the Herakles figure has been influenced by a Lysippan prototype dating to c. 320, then the fort and its reliefs cannot date much earlier than the beginning of the third century. Since the view from the fortress is toward the west, it was designed to give warning of the approach of an enemy from this quarter; this "enemy" therefore, could have been the Makedonians, Epirotes, Illyrians or Romans. There is one sustained period of time during the

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third century when we are told that the coastal cities in this area were afraid of sea-borne attack. In the late 230's, Illyrian ships were raiding the coasts as far south as Cape Malea.[24] Such a fortress as Kastri could have been built to oversee such Illyrian naval movements and provide advanced warning of attack to the inhabitants of the valley below. If Alyzeia had fallen to the Aitolians when they divided Akarnania with the Epirotes c. 252 (as seems likely[25]), then the city would not have been included in the treaty signed between the northern Akarnanians and the Illyrians in 231/0.[26] This treaty insured the safety of northern Akarnania from Illyrian depredations. The Akarnanians and Aitolians who controlled the Mytikas Valley might have begun the construction of Kastri as part of a system to defend against the increasing Illyrian threat. Since Rome unexpectedly defeated the forces of Teuta with ease in 229, the threat did not last long. After her capitulation in 228, the fort at Kastri would have been needed no longer as an active duty station; because of its remote location, it would have been abandoned.[27] During the late 220's, when the Aitolians were using Kephallenian ships to ravage the Akarnanian coast, Alyzeia, being under Aitolian control, would have remained untouched, and the fort (poorly placed to observe fleets approaching from the south or southeast) would have remained unused.

D. The Dam Below Glosses (Fig. 3, site 6; Fig. 13; Pl. 9)

The route from the interior, which debouches into the Mytikas Valley through a defile below the crag called Glosses, is blocked by a

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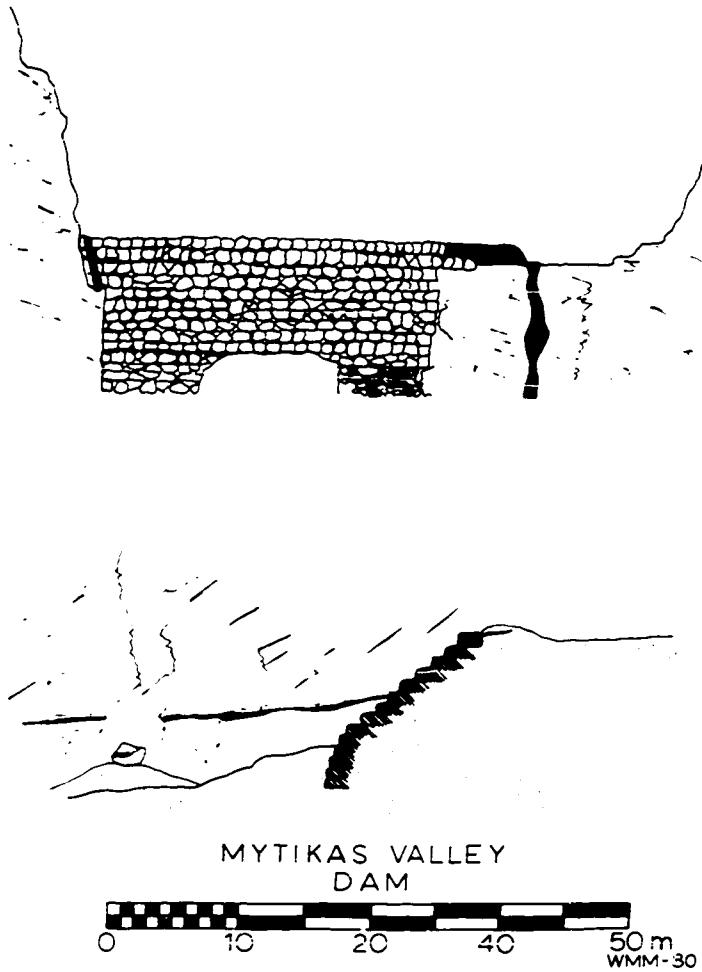

Fig. 13

dam built crossways to the pass just before it reaches the valley. Hovering overhead on the above mentioned crag is a medieval fortress of the same name. It was from this height that I got my first view of the dam, a truly amazing structure, and apparently the only one of its kind thus far published in all of Greece. It was first reported by Heuzey who came upon it in 1856 as he descended through the pass to the

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valley. He was obviously impressed by the structure, but quickly passed by and only briefly described it.[28] This dam has seemingly gone unnoticed since Heuzey's brief encounter with it. Not having read his account, I was truly unprepared for what I saw when I looked down into the pass and saw this dam completely by accident.

Composed of fourteen horizontal courses of roughly hewn blocks, the dam butts into the rock cliff on the southwest side of the pass; on the northeast, it keys into another mass of bedrock roughly equivalent to the dam's height. Through this mass is cut a channel, approximately 10 m deep, which could have allowed the regulation of the water level pooled behind the dam. At present, a modern wall 1.5 m thick has been built across this channel and probably sits in the original cutting for the sluice gate. The builders of this dam cut the outlet channel in what appeared to be limestone, but it was actually a softer marl. As a result, the channel has eroded unevenly, and is now quite serpentine in its course.

At the southwest end of the dam where it butts up against the rock, a water channel leads from the top course down the face of the dam to the top of the ninth course. Here, its slope becomes more gradual as it enters a channel cut in the cliff face. This channel runs southeastward, largely intact, for about 20 m from the face of the dam where it turns toward the southwest as the pass changes direction toward the valley. At this place, the channel has so cracked away from the cliff face that it is difficult to trace. Yet, about 20 m further toward the southwest is the substructure of an aqueduct which

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runs southwestward to a spur of bedrock which juts out into the pass. Adjacent to this spur is the stump of an arch which would have once carried the water channel southeastward across the remma and then down into the valley (Pl. 10.B). No further trace of this aqueduct is visible; it has probably been swept away by the violence of the winter torrents.

The dam itself stands about 11 m in height from its bottom to top course. As can be seen from Pl. 10.A, the first few courses are almost vertical, but give way at the top of the sixth course to ones which are stepped, producing about a 45° angle along the dam's face. The horizontal distance from the face of the first to the face of the fourteenth course is about 10 m. The length of the dam along its face at the ninth course is 25.3 m. It is possible, though not necessary, structurally, that the water face of the dam (now obscured by deposited silt) was also provided with a reinforcement of blocks set in stepped courses. The blocks which compose the top course are probably representative of those used throughout the structure; they vary in size, but many are over 1.5 m (length) X 1.0 m X 1.0 m.

It is clear from the overflow design of the water channel at the southwest end of the dam, that a moderate, constant supply of water was anticipated. When the water level dropped below the top course, nothing flowed into the channel. Therefore, the reservoir itself had to be fed by a constant water supply. And this is to be found about 2 km up the remma where even today a spring provides a moderate year-round flow of water. This spring was tapped in the winter of 1979/80

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and now the flow is channeled toward the valley in a PVC pipe.[29] This source has apparently been tapped on numerous occasions. Near the dam on its northeastern side, the remains of another aqueduct can be seen which are on a slightly higher level than the dam. This channel leads to a well-preserved mill built sometime after the 1870's (Pl. 11.B).[30] The dam structure itself has been functional in at least two distinct time periods as evidenced by an attempt to shore up the foundation courses near the outlet channel. At foundation level on the northeast end is a sizeable rubble and mortar patch (Pl. 10.D). The upper level of this patch roughly aligns with traces of rubble and lime plaster which adhere to the dam face along the top of the fourth course (Pl. 10.E). This is also the surface level of a small island of soil which is heaped against the foundations midway between the southwest and northeast ends (Pl. 10.C).

The above evidence strongly suggests that the dam has been repaired. The original structure, massively built without the use of lime plaster or cement, was being undercut by the water coming from the spillway (i.e., from the sluice gate area).[31] To shore up the foundations of this side, a patch was inserted at foundation level and then soil was heaped against the dam's face to the top of the fourth course.[32] In order to insure that water overflowing the dam would not wash away this soil, a lime plaster was used to join this mound of earth to the dam's face. Its remains appear as the horizontal line of rubble and plaster at the top of the fourth course (Pl. 10.C,E). Also at this time, the dam was probably provided with the aqueduct whose

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remains are visible some 70 m down the remma (Pl. 10.B).

The amount of calcium carbonate deposit on the rock-cut water channel is so insignificant (0.003 m) that it indicates the dam was never used for any lengthy period of time. It probably had silted up within a decade after its construction.[33] Since the plaster from the foundation patch implies that the dam held water for at least a year,[34] it was no doubt later dug out, only to quickly silt up again.

The present torrential runoff conditions do not appear to have existed when the dam was built. The lower courses of the air face (i.e., the visible, stepped face) are founded on a layer of fine silt with no coarse pebble or rock inclusions (cf. Pl. 10.E). And Professor T. H. van Andel assures me that this is the type of deposit one would expect from a more controlled flow of water. As in the nineteenth century, there may have been more vegetation covering these hills when the dam was built.[35] Detained somewhat by the vegetation, the runoff would have been less violent, more water could have seeped into these limestone mountains, and springs might have flowed more evenly throughout the year. Such a possibility must be considered in determining the intended use of this dam.

Historically, dams have been built to perform a number of tasks. They create a reservoir of water which can be drawn off through aqueducts for drinking purposes, for the irrigation of crops, or in mining districts, for an excavation process called "hushing," and for the washing of ore.[36] Dams can act as diversion dikes to channel flows of water, or as protective barriers to provide a degree of downstream

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flood control.[37] In African Tripolitania, earthen dams were built across wide valley bottoms to hinder the process of soil erosion, thereby collecting soil for cultivation.[38]

The Glosses dam certainly was not built to retain soil. It bears no relationship at all to the wide valley soil retention dams mentioned above, nor to the soil retention dams utilized in Akarnania today. These appear as a series of low rubble walls built across the bottom of a valley, each wall forcing the runoff to slow enough to drop its load of silt behind the wall. Situated, not in a valley bottom, but in a narrow defile, the Glosses dam never could have retained enough soil to justify the considerable effort and expense of its construction.

The Glosses dam also was not built for purely protective reasons or else we are forced to explain away the water channel which leads from the dam toward the valley; simple overflow could have easily been dealt with by regulations of the sluice gate. Furthermore, once the remma enters the valley, the water descends more or less directly to the sea, far from densely populated areas which might have needed protection. Due to the absence of any nearby mining operations, we can also safely conclude that this dam was not intended for ore washing or hushing purposes.

This leaves us with two alternatives: either the dam was designed to pool water for irrigation purposes, or for the watering of livestock in the valley.[39] The decision between these two alternatives is difficult. The present tapping of this water supply is for the latter reason--the flow not being sufficient for irrigation

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purposes.[40] But as mentioned above, the supply of water during the original use period of the dam may have been more evenly distributed throughout the year and thus, greater during the dry summer months than it is today. And since the dam appears not to have been a success, it conceivably could have been built for a purpose whose needs it did not fulfill. This latter possibility must be kept in mind when we examine possible parallels for this dam from the ancient world.

The Greeks do not initially come to mind when we consider ancient peoples who undertook innovative water projects. Greece is not a land of large rivers and extensive plains, and as a result, its agriculture was not geared toward irrigation to the same degree as that of Mesopotamia and Egypt.[41] Dry farming was the rule in Greece, although the principle of irrigation was understood and practiced in some places by at least the fifth century.[42]

Despite their lack of renown for large scale water works, the Greeks did construct some very impressive hydraulic systems.[43] Herodotos tells us of Eupalinos' great engineering feat at Samos where an aqueduct was led for about 1 km through a hill which stood between the city and its water source.[44] And at Megara in the seventh century and Athens in the sixth century, fountainhouses were linked to distant water sources by underground pipes.[45] Although numerous examples of Greek aqueducts are known, Greece is not an area where many examples of ancient dams have been identified.

Pausanias records a number of earthen dikes which he calls γῆς χώματα in Arkadia and Boiotia which served to channel the flow of

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streams to katovothroi and thus protected the surrounding plain from flooding.[46] The best preserved examples of these dikes are in Boiotia near Thisbe and in the Kopaic Lake basin. Those in the lake basin appear as "low broad mounds, about five feet high [1.52 m] and fifty to sixty yards wide [45.7 m - 54.9 m], stretching for long distances across the plain .... Sometimes [they appear as] a single mound ... sometimes [as] two parallel mounds at a short distance from each other." They can also be traced "by the walls built of great polygonal blocks which in many places support and case the inner sides of the dikes."[47] Even the Thisbe example, which functions more like a dam than the above dikes, was built in a similar manner.[48] Neither in function or appearance do these γῆς χώματα of Pausanias offer any real parallel to the Glosses dam.

The one other example of a Greek dam which has been published acted more as a diversion dike than a dam. Although a few walls originally protected the face of this dike near Tiryns, the structure never had the appearance of a dam, nor did it function like one. It was designed to divert water from an old bed into a new one and was never intended for the catchment and pooling of water. Whatever its true date (it has been assigned to the LH II period[49]), it too makes a poor parallel for our dam.

As one might expect, the Romans were prolific builders of dams, especially in the dry lands of the Middle East and North Africa. Two examples pictured in N. Smith's The History of Dams share similarities with the Glosses dam in outward appearance. One example (of late

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second century A.C. date), located north of the Negev in Syria at Qasr Khubbaz, displays an air face composed of large limestone blocks set in stepped courses. The original discoverer of this dam only briefly described it, and it is impossible to tell from the photograph he published the exact dimensions of the dam, the design of its spillway, how water was drawn off from the reservoir it created, and whether or not the blocks composing its air face were set in cement (which one might expect in a Roman dam).[50] Two other parallel examples (dated to the Byzantine period) can be found in the Wadi Kurnub "twenty miles or so south-east of Beersheba."[51] These also exhibit sloping (not stepped in this case) air faces composed of cut stone blocks, but again, we are not informed of their exact construction. From the description, it appears that the blocks of the air faces are set in mortar. Without personally seeing these dams, I can say no more than they look similar in outward appearance to the Glosses dam; but is this significant? Smith's work on ancient dams makes it abundantly clear that similarity in outward appearance is useless in terms of dating dams from different geographical areas. Smith also concludes: "There is no evidence that the art of dam-building was diffused from one original source. Such a basic technology was fully capable of developing independently at any place where it was needed." And further: "There is not the slightest reason to believe that ancient engineers followed any rules or formulae when building dams. Using whatever materials happened to be available, they built the type of structure which experience told them would be effective."[52] The technology which produced the Glosses dam, therefore,

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was not necessarily dependent upon engineering developments of any particular period. All four dams are of the simple gravity type, held in place by their own weight--a type of dam which has been built for millenia and which is still being built today.[53] These examples from the Middle East are unfortunately useless for dating the Glosses dam.

Nevertheless, there is one feature of this dam's design which is strikingly peculiar, and might help to explain the function it was intended to perform. The dam was designed to create a reservoir of water; this much is obvious. Furthermore, the existence of the overflow water channel shows that at least one purpose for which this dam was constructed was the collection of water for irrigation or for drinking purposes. But upon reflection, this dam represents an incredible waste of time, energy and expense if what was desired was merely a moderate, constant flow of water. This much could have been achieved by simply tapping the source of water directly with a pipe, as has been done today. Why then was this dam built?

An interesting passage in Plato's Leges may provide the answer. In setting out the duties for the groups of young men who were to serve as guardians of the countryside, Plato writes:

> Concerning the rainwaters, they are to take care that these waters not harm the land, but help it instead. They are to block up with dams and channels the outflows of the runoff which comes down from the heights into hollow torrent glens up in the mountains. By both storing up and causing the water to be absorbed into the ground, thereby making streams and springs for the fields and all the underlying districts, they will cause even the driest spots to become abundantly supplied with water, and good water at that.[54]

This particular theory of spring formation is also relfected in a

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passage of Aristotle's Meteorologica, written perhaps a decade or so later. He writes:

> ... the process is rather like that in which small drops form in the region above the earth, and these again join others, until rain falls in some quantity; similarly, inside the earth, quantities of water, quite small at first, collect together and gush out of the earth, as it were, at a single point .... For mountains and high places act like a thick sponge overhanging the earth and make the water drip through and run together in small quantities at many places.[55]

Two observations can be made concerning these passages: 1) the theory behind this particular dam's construction was fully appreciated by the Greeks of the mid-fourth century; and 2) the Glosses dam provides a perfect example of Plato's description. It has been placed in a narrow outflow through which runoff water passes into the coastal plain from a remma--"a hollow torrent glen in the mountain." A channel has been constructed to draw off the overflow water only, thus allowing the bulk of the stored water (i.e., the "dead water") to sink slowly into the ground, to appear elsewhere as springs.

This damming of torrent beds was perhaps a new concept for the Greeks in the fourth century for we hear nothing like this water management theory before or after this century. It was an idea which apparently never caught hold. This leaves us with three possibilities: 1) the Glosses dam served as the model for Plato's remarks; 2) Plato's remarks stem from a fourth century water management theory which also produced this dam; or 3) this dam had nothing to do with Plato's account.

We can safely assume that this dam was an expensive structure and

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that it was most likely a public, not a private, undertaking. The design is quite telling on this point; a private water supply could have been tapped from the spring up the remma by means of a pipe. We should, therefore, expect this dam to have been built during a prosperous period when the population was substantial, and when there was sufficient capital to allow for its construction. A general indication of such periods of prosperity can be provided by remains of other public buildings or fortifications in the valley and by literary and inscriptional evidence. Independent of Plato's account, this dam could have been built anytime after the beginning of the fourth century and before 30 B.C.

The lower terminus of 30 B.C. is provided by the foundation of Nikopolis. It is clear from the accounts of Strabo and Dio Cassius, that peoples were gathered together from the lands around the Ambrakian Gulf to populate the city.[56] Our surviving sources list the Ambrakians, Leukadians, Anaktorians, Thyrreians, Amphilochian Argives and the Aitolians as taking part.[57] A very interesting passage of Pausanias records that Augustus moved the cult statues out of the Akarnanian and Aitolian shrines and transported them to Nikopolis.[58] Strabo, furthermore, tells us that the cities of Palairos, Alyzeia, Leukas, Amphilochian Argos and Ambrakia were all περιοικίδες of Nikopolis.[59] Now, it is impossible to tell how many inhabitants stayed behind as περιοίκοι, but there was to be no mistake concerning their status. The governmental and religious center from 30 B.C. onward was to be Nikopolis. The new city prospered and drew to itself many people

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from the surrounding territories.[60] Alyzeia, no doubt, lost population to the new city, and for this reason, I see 30 B.C. as the absolute terminus ante quem for the construction of this dam.

The greatest period of Alyzeia's prosperity, however, falls in the fourth and third centuries. An apparent economic boom had already begun in Alyzeia by the mid-fourth century. The first recorded theorodokoi we encounter from this city date to this period; Alyzeia was able monetarily to help support the Boiotians in their war against Phokis at this time; and at sometime during this period, the city first began to issue silver staters for use in interstate trade.[61] Later in the century, Alyzeia benefitted from the economic prosperity resulting from Timoleon's successes in Sicily; she accordingly built a solid dock at her harbor, and adorned the harbor shrine of Herakles with Lysippan statuary.[62] I have argued elsewhere that the reason for this period of prosperity is directly related to the navigability of the Leukas Canal which had been reopened sometime before the final publication of Pseudo-Skylax' Periplus in 348/7.[63]

There is one other possible period of prosperity in this valley when such a dam as this could have been built; the dam might be contemporary with the substantial church of Agia Sophia located near the shore a kilometer or so east of the modern town of Mytikas.[64] The nature of the dam's masonry is particularly telling against such a date, because the original structure was built completely without the aid of mortar. Furthermore, since there are two general periods of prosperity when this dam could have been built, and apparently two

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separate use periods of the dam itself, we can reasonably ascribe the reuse of the dam to the period contemporary with the church, perhaps in the seventh century A.C. (cf.n. 64). The original construction period of the dam can be assigned to the earlier period of prosperity, the fourth and third centuries.

Let us now return to the three possibilities raised by Plato's account. The likelihood that this dam roughly dates to the period of Plato's account makes the first two alternatives more attractive than the third. There is some evidence to show that Plato may have been familiar with this coast of Greece,[65] and we might have expected him to mention this dam directly as a model if he was basing his description on the structure. This weakens the likelihood of the first alternative. The second of the three alternatives, therefore, seems most likely, i.e., that this dam was built according to a fourth century (or earlier) water management theory known to both Plato and Aristotle.

A date sometime soon before or after the composition of the Leges would seem to make the most sense.[66] There does exist an excellent occasion for the building of such a dam some two decades after Plato's death. Between 330 and 326 there was a general famine that affected Greece which was no doubt partly the result of drought.[67] That the famine affected this area of Greece is shown by an inscription from Kyrene recording sales of grain to Greek states or cities during this period: Palairos bought 10,000 medimnoi; Leukas bought 15,000; Ambrakia, 16,500; the Illyrians, 3,500; and Kleopatra of Epiros, 50,000.[68] It is possible that the Glosses dam was built during or

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just after these dry years according to a fourth century water management theory which promised both flowing water and springs as a result of its construction. Our knowledge of this period is too imperfect to determine conclusively that this was in fact the case, but it certainly is a reasonable possibility.

Whenever this dam was actually built however, the winter runoff quickly silted it up. The perceived need for the dam diminished and it lay forgotten and neglected for many years. People continued to live in this valley through the Roman period and at some unknown time, perhaps the seventh century A.C., the dam was dug out and repaired. Again, it quickly silted up and was abandoned for good.

The designers of this dam were more successful in making a solid, lasting structure than an effective one.[69] But the experimentation inherent in such a project deserves our utmost admiration. Due to its general lack of large rivers, Greece has few examples of ancient dams. This is the clearest, largest and most technically advanced specimen in the whole country. That it is not Roman in conception or construction, that it was originally built completely without the use of concrete or mortar, and that it is so massive makes it all the more important and amazing.

E. Alyzeia, the City (Fig. 3, site 7; Fig. 14)

The city of Alyzeia is situated in the northwestern extremity of the Mytikas Valley at the entrance to the pass that leads northward into the mountainous interior. Today, the modern village of Kato

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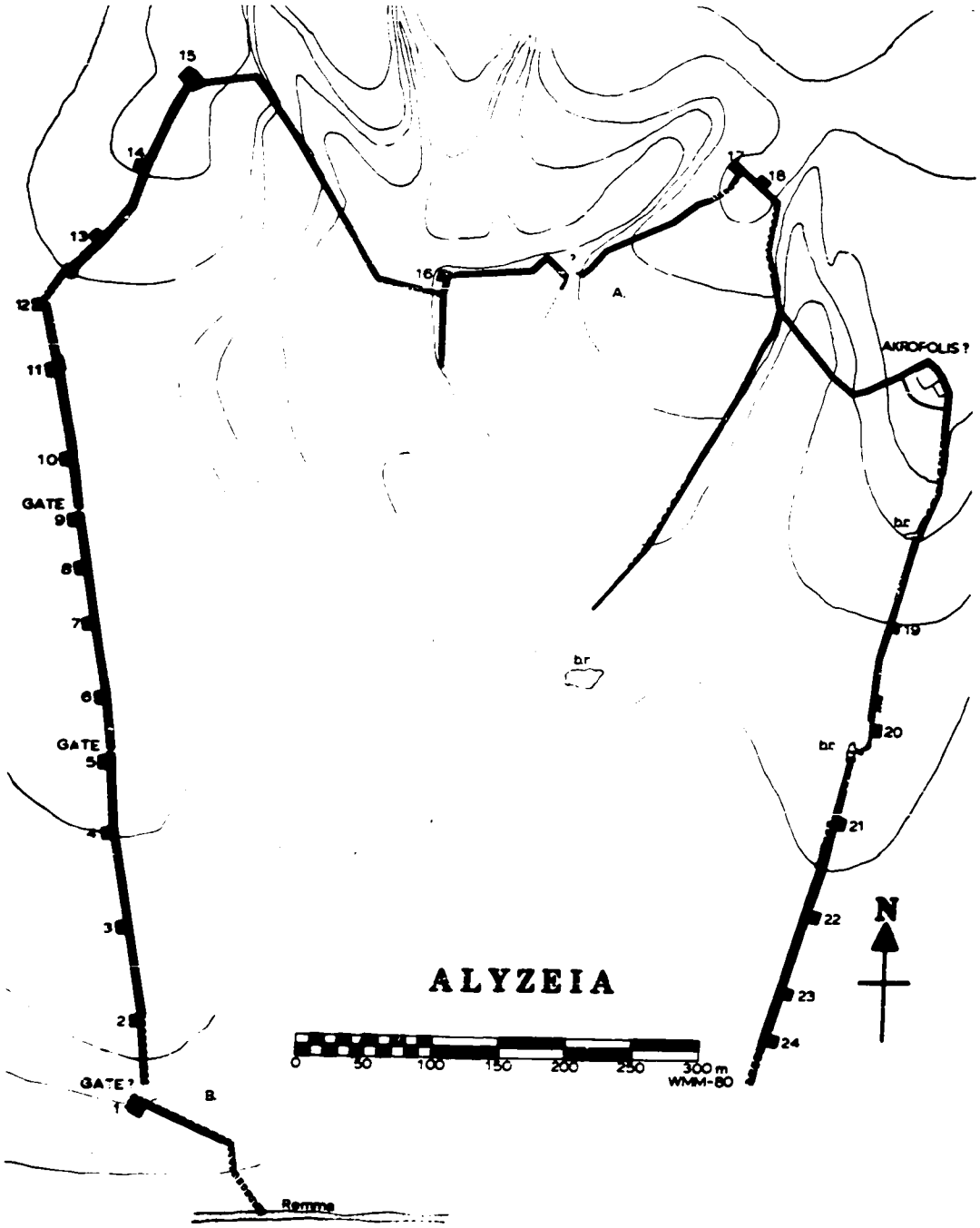

Fig. 14

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Kandhila is partially built over the southwest corner of the city circuit. The identification of the site was first made by Leake and thereafter has never been a matter of dispute.[70] Its distance of roughly 3 km from the sea agrees with Strabo's 15 stades, and the distance between its harbor in Mytikas Bay and Leukas corresponds with the 120 stades given by Cicero.[71]

The site was situated in a defensible place but the highest consideration was given to its accessibility to the agricultural plain. Because of this, the site encompasses both plain and high ground with the construction of the circuit differing markedly in each sector. The high ground is at the northern end of the city, where three tongues of a larger mountain slope protrude from the pass southward into the valley. The eastern and western walls[72] follow the gentle slopes of the eastern and western tongues of land to upland terraces and terminate in a fortified position--tower 15 on the northwest (Pl. 11.C), and a probable akropolis on the northeast (Pl. 11.D). The northern wall connects these two points together and in so doing incorporates the middle tongue of land within the circuit. The total length of the traceable circuit is about 2.3 km but this does not take into account the southern wall which has almost completely disappeared.

As noted above, the circuit can be easily divided into two sectors, the northern uplands and the southern plain. The northern sector starts after tower 14, where unlike in the plain, the wall exists in many places to its full original height, entirely built of stone in a polygonal style (cf. Pl. 12.B,C). The thickness of the wall varies,

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but it is generally one or more meters thinner than the walls to the south. The builders of this wall placed it on the terrain always with an eye for its defensibility. Thus, the northern barrier of the city utilizes the steep sides of the ravines and indents toward lowland weak spots such as the tower 16 area. The weakest points along this stretch are guarded by towers. Tower 15 is the largest of the preserved towers, being largely intact up to the level of the parapet blocks. Its strange shape orients it toward the direction of the route which would have led into the pass. Composed of trapezoidal blocks with drafted corners, it has at least two in situ blocks of its substructure which are bonded with leaded iron staple clamps. Atop the tower sits a small white chapel of the Panagia. Before a refurbishing of this chapel in the summer of 1980, the original steps which led up from the circuit wall south of the tower were clearly visible (Pl.12.A). They are now partially covered.

Tower 16 is very badly preserved and thickly overgrown. It too was probably composed of trapezoidal blocks since its outside in situ corners are drafted. This flat mini-valley is perplexing; one might expect a gate or postern here but there apparently was none. I have also seen in springtime, a brook gurgling around the scattered blocks of the crosswall west of the tower. Here, as in the next ravine to the east, we should probably restore some sort of drain through the wall to prevent its being undermined by runoff, yet I found no trace of such a drain either here or in the next ravine.

The middle tongue of raised land is interesting for a number of

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reasons. First, it is almost fortified as a separate unit, with walls that follow the slopes of the hill down into the plain. It lacks only a southwest wall to be independently fortified. Second, towers 17 and 18 (Pl. 12.E) provide a well-fortified position at what might be called this enclosure's (i.e., that of the central hill) akropolis area.[73] Third, the highest concentration of rooftiles and coarseware sherds occurs in the area marked 'A' on Fig. 14. Also in this general area are numerous examples of partially quarried blocks (Pl. 13.A,B) and the remains of a rectangular building, the only clear remains of an ancient building found within the entire city circuit (Pl. 12.F). It is therefore likely that the settlement of Alyzeia was located on this hill; it was probably the original site of the city, and the area which was first fortified.[74] This latter fact would explain the curious walls which partly surround the hill and which have no function given the wider context of the complete circuit.

A cross wall literally plummets down into the ravine between the middle and eastern hills (cf. Pl. 13.C) and ascends almost as abruptly to another strongly fortified position. Because of an interior terrace wall of large polygonal blocks separating this height from the city side as well, I interpret this area as the akropolis. Heuzey's argument that the tower 17 and 18 area is the akropolis is understandable considering the apparent site of the city's center. Yet, because these two towers are not walled off into a separate enclosure (despite Heuzey's statement to the contrary[75]), the akropolis must be located here, at the northeast extremity of the city. This akropolis (i.e., its

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outer walls) is also distinguished by its being the starting point for a new style of masonry--coursed trapezoidal--which continues, though poorly preserved, into the plain below (Pl. 11.D).

The Southern Sector. The fortifications of the plain or southern sector are much more regular than those of the hills. The projecting towers are all roughly of the same size and are set roughly equidistant from each other. The overall plan of towers and circuit wall is well coordinated and certainly belongs to one building period.[76] Unlike the northern sector where the walls are preserved in places to their full height, here the walls are uniformly low to the ground, seldom rising more than two courses in height (Pl. 13. E,F). Their average width is also greater than that of the northern walls; on the west side, it is 4.25 m, and on the east side between towers 21 and 24, the wall thickens to 5.5 m. Since the adjacent fields are littered with roof-tile fragments, it is reasonable to assume that the southern sector walls were largely built of mud brick, roofed with tiles and set on a stone socle. The tiles have fallen, the walls have melted away and we are left with the socle and tower foundations.

Two narrow gates pierce the western wall north of towers 5 and 9. These two flanking towers are appropriately placed on the right, shieldless side of an attacker trying to force entry here. Immediately to the west of the gate at tower 9, six graves have been located and plundered; one-half of a large limestone cover slab can still be seen north of the path which runs through the field (Pl. 14.B). Directly

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inside the gate, the owner of the land told me that he and others had found numerous coins. We have here two small postern gates which were used by the Alyzeians toget to their fields outside the walls, and by those wishing to travel inland up the pass. The main gate complex is probably to be located at the southeastern corner of the circuit but it has been cut into by local roads; only the scanty outline of a large corner tower can be made out today. Directly to the south of this area, graves were exhumed when foundations were laid for the village church.[77] The road which presumably approached the city here, logically came from the harbor. From here, the city wall turns to the southeast to run behind the church, then toward the south at the edge of the churchyard, and then completely disappears except for a small section jutting into the remma south of the Georgaleika road.

Heuzey notes that in 1856 there were few remains from the ancient city within the circuit. He had located an Ionic column shaft and two inscribed stelai at the church and also a statue base of black marble.[78] Rhomaios, some seventy years later, reports finding an interesting fourth or fifth century Ionic capital somewhere near here.[79] I myself was not able to locate even one of the above mentioned items. The old church was dismantled long ago, and unless these pieces were deposited at Agrinion in an apotheke, they are now lost.

Date of the circuit. Xenophon provides us with a valuable observation of the Akarnanians in either 391 or 389 (Hell. 4.6.3-4):[80] οἱ μέντοι Ἀχαιοὶ πανδημεὶ συνεστρατεύοντο. ἐπεὶ δὲ διέβη ὁ Ἀγησίλαος,

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πάντες μὲν οἱ ἐκ τῶν ἀγρῶν Ἀκαρνᾶνες ἔφυγον εἰς τὰ ἄστη, πάντα δὲ τὰ βοσκήματα ἀπεχώρησε πόρρω, ὅπως μὴ ἁλίσκηται ὑπὸ τοῦ στρατεύματος. This general movement of the population into the cities makes little sense if the major cities were unwalled. Furthermore, at the end of the campaign he undertook here, Agesilaos tried to take "several of the cities" but was unsuccessful.[81] Alyzeia (as well as Oiniadai, Astakos and Palairos) was no doubt fortified to some degree at this time. Whether or not Alyzeia was fortified when Demosthenes stopped here in 413 to pick up javelin throwers and slingers we cannot determine.

Considering the nature of the circuit, it seems there was a two-stage development of the complete enceinte. First, the central tongue of land was fortified; the eastern and northwestern flanks of this central hill offered the most easily defensible position in the area, and its weakest points were guarded by towers 16, 17 and 18. The southwest section of this original circuit was later robbed out for the same reason the larger circuit's south wall no longer remains; it traversed good farmland.

At some unknown later date, when presumably the city's population and prosperity had increased sufficiently to allow it, the circuit was greatly increased. The regular placement of the towers indicate a comprehensive plan, conceived, if not completely executed, at one time.[82] The exact date of this extension must remain unknown, but I would argue that the general prosperity implied by such an undertaking would not have prevailed in the valley before the mid-fourth century.[83]

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F. Alyzeia, The Harbor (Fig. 3, site 8; Figs. 15, 16, 17)

Useful Maps and Charts: 7; 12; 14

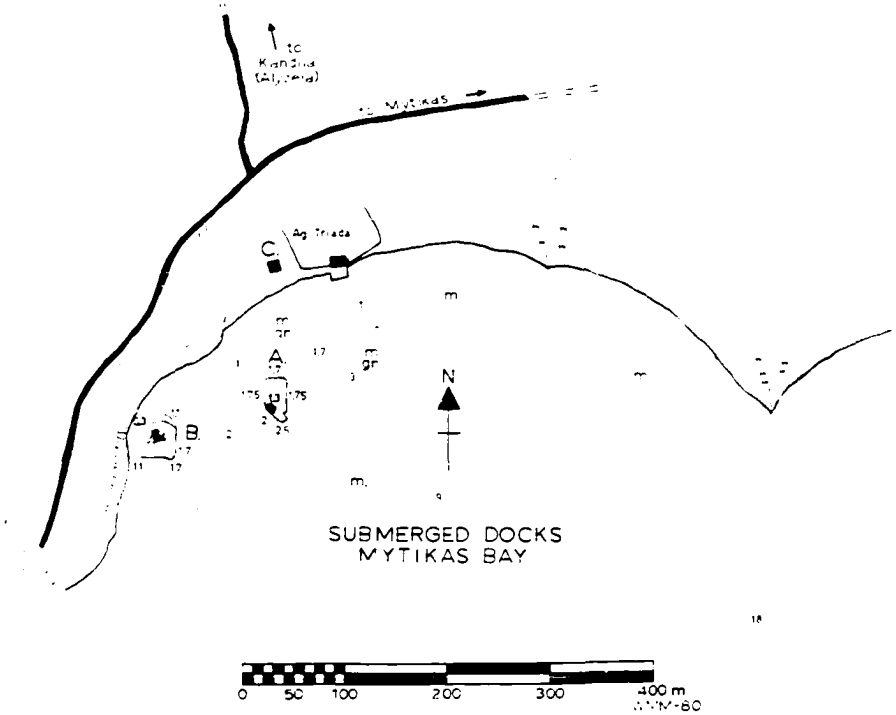

Fig. 15

The plain south of the city broadens toward the sea, terminating in two bays separated by a low spit of land built out from the shore like a point or "nose."[84] Today the bays are rarely visited by passing pleasure yachts, but their value as a protected anchorage was recognized by the English in the early nineteenth century.[85] Large ships (such as the English warships) and triremes would best utilize Vurko Bay with its long pebble beach and ample maneuvering room. Smaller boats such as ancient coasters could find better shelter in the northwest corner

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of Mytikas Bay (cf. Fig. 2). Here the bay is not so deeply cut into the mainland as at Astakos, but the protection offered by Kalamos Island and the surrounding coast provides ample security except when south-westerlies blow. It also stands to reason that Mytikas Bay becomes moderately choppy during late afternoons of strong sea breeze days.[86]

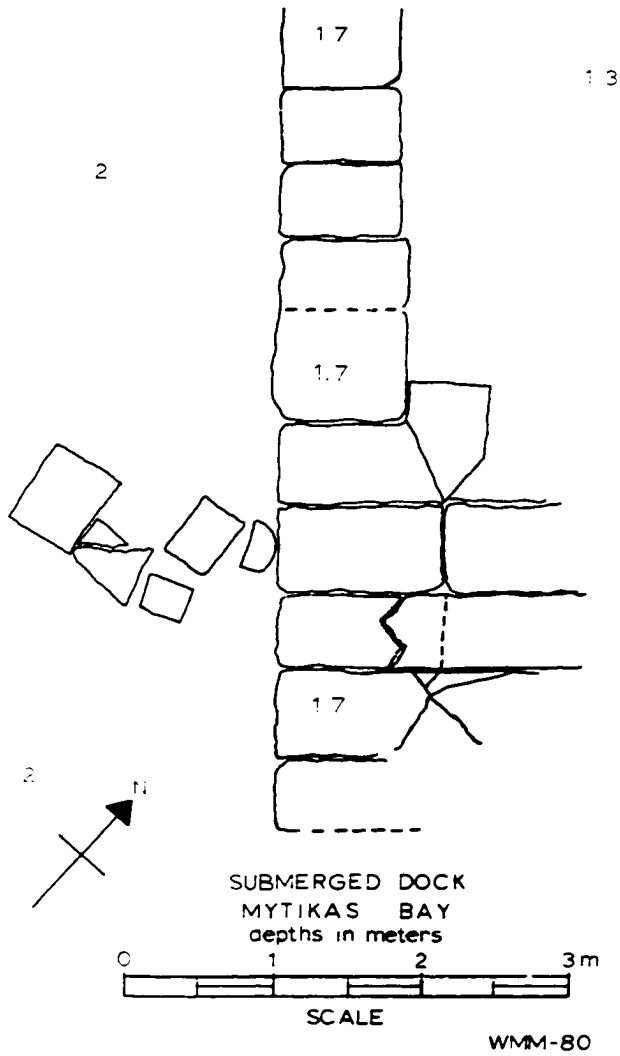

Fig. 16

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This bay is by no means an all-weather port; only a fool or one with no choice would ride out a strong storm from the southwest here.[87] Yet, as a fairly well protected landing point for goods and passengers coming to the Mytikas Valley, the bay is fully adequate, especially in its extreme northwest corner.

In this very portion of Mytikas Bay, southwest of the little chapel named Agia Triadha, is the submerged surface of a dock (Fig. 15, area 'A'). The dock's surface is composed of large rectangular blocks which are partially exposed at the structure's southwestern edge (Fig. 16). It is difficult to determine the full extent of this paved platform because its surface toward the northeast is covered by a smooth concretion (thus obscuring the joints between the blocks) and a scatter of fieldstone rubble (from the size of softballs to bowling balls). Nevertheless, I estimate the width of the surface to be about 15 m. In order to determine accurately the size and nature of this dock, a full cleaning operation would have to be undertaken and the fieldstone scatter removed. To date the dock on its own evidence would require excavation and the recovery of all the pottery inevitably pitched into the water during its use period. Yet thanks to datable submerged structures near Pogonia and Leukas, a rough history can be determined for this dock without resorting to excavation.[88]

Since the relative rise in sea level would be essentially the same for this whole coast, and especially for the two adjacent areas of Mytikas Bay and Palairos Bay, two docks or piers found submerged at the same depth should date roughly to the same time period.[89] A comparison

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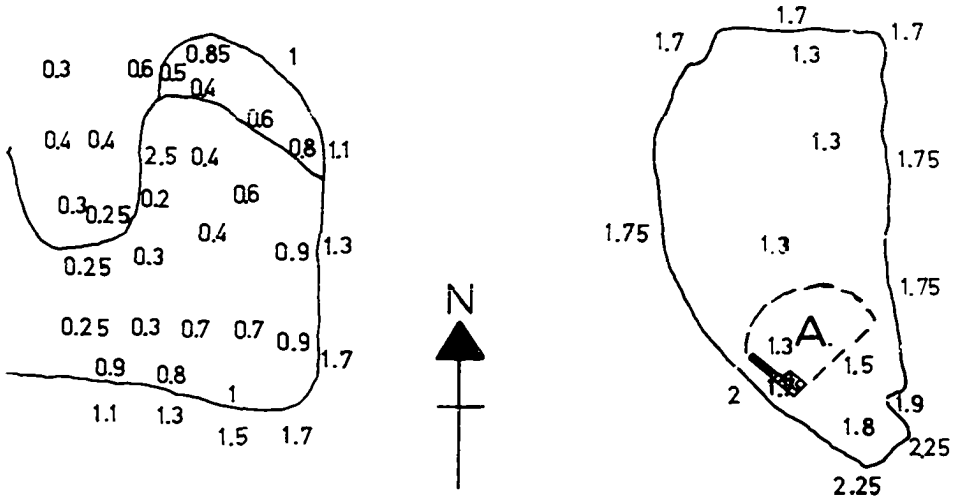

DEPTH CHART:
DOCKS IN
MYTIKAS BAY
WMM-80

Fig. 17

of Fig. 17 and Fig. 27 shows that the depth of the surface of exposed blocks in Mytikas Bay is 1.7 m, and that the central part and the seaward edge of the Pogonia mole (where the structure was littered with amphora fragments) is roughly at the same depth. The pottery found on the Pogonia mole dates to the late fourth and early third centuries at the earliest, and signifies the use of the dock at least in this period. It is tempting to date the dock in Mytikas Bay to this same period arguing from a correlation of depths; unfortunately this argument is not conclusive. There may have been a rough sea level stillstand from the fourth to third centuries B.C. until the fourth to sixth centuries

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A.C. (see pp. 241 ff.), and theoretically, the Mytikas Bay dock could have been built at any time within this period and still roughly correlate in depth to the Pogonia mole. From historical considerations discussed above, it is unlikely that a dock would have been built after the settlement of Nikopolis in 30 B.C.[90] Pseudo-Skylax does not mention the existence of a λιμήν here and it might be argued that this had something to do with the absence of a permanent harbor structure here were it not for the fact that no λιμήν is mentioned in conjunction with Oiniadai where we know some sort of harbor existed at this time.[91] The dock was probably in existence by the time of Strabo because he refers to the place specifically as the sacred harbor of Herakles.[92]

Evidence provided by the presence of Alyzeian silver staters in coin hoards during the second half of the fourth century indicates that traders were not slow to utilize this harbor as soon as the Leukas Canal was reopened sometime during the first half of the century. Other indications of Alyzeian prosperity at this same time make it very likely that Alyzeia built this dock to serve both the needs of the city and the needs of the merchants who frequented her harbor. Alyzeia's properity was such that toward the end of the fourth century a temenos of Herakles located at the harbor was adorned with Lysippan statues.[93] It seems most logical, therefore, to date the construction of this dock to the period immediately following the reopening of the Leukas Canal, and contemporary with the period of prosperity which followed Timoleon's military successes in Sicily, i.e., to the third quarter of the fourth century.[94]

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We still must account for the fieldstone scatter, the shape of which is suggestive of the following explanation. At some later date, when the rising sea level had rendered the paved surface unusable, the dock's surface was elevated and repaved with rubble set in lime mortar. Over the years, the further rise in sea level and the action of the waves broke apart this upper surface and scattered the stones, resulting in its present shape (Figs. 15 and 17). I have seen a few combed-ware body fragments from early Byzantine amphoras mixed in with the fieldstone scatter here. Perhaps the community that built and maintained Agia Sophia also refurbished this dock.[95]

At area 'B' in Fig. 15, there are the remains of a rubble landing whose surface is just awash (see the depth chart, Fig. 17). This is the simplest of structures, being merely a platform of loose stones built out from the shore. Because of accumulated silt, it is difficult to tell how deep the water originally stood at the northwest corner of this structure, but the pocket here may have been designed as a dinghy port, whereas the exterior faces of this landing, being in deeper water, were for larger vessels. Due to the shallow depth of its surface, it cannot be of any great antiquity.

The only structure on the shore of identifiable antiquity is a square podium of opus incertum, surrounded by marble architectural elements, located due west of Agia Triadha (Fig. 15 at 'C'). Originally thought to be the sacred precinct of Herakles mentioned by Strabo (see above), its excavation proved it to be a mausoleum of the late second century A.C.[96] The location of the Herakles sanctuary which once held

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the works of Lysippos is still perhaps a matter of conjecture, although Rhomaios, the excavator of the mausoleum, believes that it was built with marble taken from the shrine of Herakles, originally located here. He reports finding numerous fragments of fine workmanship which do not seem to have been used in the mausoleum structure, particularly two Ionic capitals of different sizes and appearance (one is only a fragment). He dates these on stylistic grounds to the fourth century B.C. Of the pieces which were utilized in the mausoleum, Rhomaios believes at least three are also of fourth century workmanship. Since Strabo 10.2.21 clearly implies that the temenos and shrine of Herakles are to be located at the harbor, Rhomaios is probably correct.[97]

There is a persistent belief among the valley inhabitants that the ancient city of Alyzeia is submerged offshore.[98] This is perhaps due to remains once at the harbor. A few elderly inhabitants of Kato Kandhila, including the town lawyer, told me that certain submerged foundations "of houses" were covered over by the debris pushed into the sea when the coastal road was built to modern Palairos. There is one partially submerged wall which straddles the shoreline 7 m east of the church dock (cf. Fig. 15), but it probably had something to do with an earlier church structure.[99] Even if we restore a few shore structures with this dock (i.e., the ancient dock), we should not think of this as constituting part of some harbor town subordinate to the major polis located inland. Goods were loaded and unloaded here, and perhaps even Cicero trod the dock's surface, but in spite of its claim to such an illustrious pair of feet, it was a modest structure for modest

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purposes.[100]

G. Alyzeia to Palairos: Topographical Remarks (Cf. Figs. 2 and 18)

Useful Maps and Charts: 14; 18; 21,T.4

Before the coastal road was cut through to Palairos in the 1960's, the easiest way to make the journey was by boat.[101] The distance to Pogonia (the site of Palairos' ancient harbor) is about 9.5 nm and it could be covered by a fast trireme in a little over an hour. A merchant vessel under sail could make the run from Cape Kamilafka in two hours, but it might take up to an hour to tack upwind to the cape in light air.

Lolling describes the land route through the mountains as difficult and arduous.[102] The one he used leaves the valley by the pass near Kato Kandhila and runs northward to Agios Vasilios. It continues north past Agios Dhimitrios, then turns northwest up the valley between hills 1089 and 1090 (see Map 21,T.4). Continuing along the eastern slopes of Mt. Serekas, it turns west through the Plakoto pass and descends by Agios Athanasios out into the Palairos Valley (cf. Fig. 18).[103] Lolling records the total time needed for the trip as four hours, twenty minutes, but it then takes an additional one and one-half hours to continue on to Kechropoula, the site of ancient Palairos.

Rhomaios records the existence of a road leading along the shore from the harbor in the Mytikas Bay to the Palairos Valley. He reports the existence of places where the rock had been cut down 1.20 m in width, forming modest steps leading around the headland northwest of

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the harbor. This path does appear on Map 21,T.4, but it has been totally obliterated by the construction of the modern road.[104]

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Notes to Chapter VI

[1] See pp. 83 ff., 91 ff., and 106 ff., cf. also Heuzey (1860 : 403-406), who in a very interesting passage describes his trip from Monastiraki (near Agios Vasilios--ancient Thyrreion) through the mountainous interior and down through the Glosses pass.

[2] This inability to hold rainwater is not only due to the lack of vegetation; these mountains are essentially huge blocks of limestone and consequently, the amount of runoff would always have been great (whatever the vegetation) as the name Xeromeros implies. Yet the present bareness of these hills makes the inherently water-poor nature of this area even worse.

[3] See p. 96. It should be noted that even with the thick forest described by Heuzey (1860 : 406), he still observed that the torrent's flow was violent when it rained.

[4] Tsipouro is the Akarnanian form of raki, alcohol distilled from the grape mash left after the juice has been extracted for wine.

[5] Leake (1835 : IV, 13); according to Heuzey (1960 : 406), their center of operations was at Varnaka, up the defile from Glosses.

[6] Heuzey (1860 : 417).

[7] The orientation of the tower roughly places the corners at the north, south, east and west points. The side with the overhanging slab of rock is on the southwest; the door is thus on the southeast side.

[8] See Heuzey (1860 : 417).

[9] Cf. Heuzey (1860 : 417-418): "Elle est couronnée par une assise étroite formant corniche à l'intérieur et qui paraît avoir été destinée à porter le plancher d'un second étage ou peut-être un toit ...." Heuzey seems to be slightly confused. The tower is composed of two preserved levels; another one above the cornice would constitute a third floor, for which there is really no evidence.

[10] Such clamp cuttings were observed in many of the towers at Astakos, in one block at Alyzeia and in the large tower 'C' at Palairos. Cf. Appendix D, p. 456.

[11] For an example of this type of defensive strategy for blocking a pass, see Livy 32.5.8 ff., who describes the position taken by Philip V in the spring of 198. Philip attempted to block the advance of the Roman army by entrenching his army in the narrow gorge of the Aous River.

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[12] If the Aitolians had maintained control of Alyzeia, then the tower could be directed against the armies of Philip V; once Phoitiai had been taken in 219, the road was open for a march to Mytikas. But if the Makedonians had managed to expel the Aitolians, then the tower could have been built to guard against reprisal attacks. Cf. Lawrence (1979 : 444) for other examples of single towers in Greece. Lawrence mentions this tower--called Zavitsa in accordance with Heuzey's name for it--but does not discuss its date. Lawrence wrongly records its height as 6.30 m (Heuzey's figure), so it is likely he never personally visited the tower.

[13] Heuzey (1860 : 418).

[14] Heuzey (1860 : 412).

[15] Such cisterns are in use today in the area, but the water from them is deemed fit only for animals. To be potable for man, care would have to be taken to insure that the water did not stagnate. The cistern must originally have been covered by a roof of tiles; clean water would have been brought in by a pipe or was collected from the roof. This care could have been performed by a nearby village, but other considerations indicate that Kastri was intended for a garrison (see text).

[16] Lolling, Urbaedeker, CXCII, asserts that Kastri was of use to those people who lived outside the protection of the city's walls: "...nur eine sichere Zufluchsstätte für die Bewohner der offenen Ebene, denen die Stadt Alyzia keinen hinreichenden Schutz gewähren konnt." Kastri's position is much too remote for this.

[17] Heuzey (1860 : 411-412); cf. Xen. Hell. 6.2.33-34.

[18] Heuzey (1860 : 412-413); his drawing is also quite good—compare his Pl. XII with my Pl. 8.E.

[19] Lolling, Urbaedeker, CXCII, offers this interpretation: "... dass die Wunden, welche der Krieg schlägt, im Frieden wieder geheilt werden."

[20] For an illustration, see Heuzey (1860 : Pl. XI).

[21] For the Farnese type, see Havelock (1981 : no. 81 and pp. 119-120; bibl. p. 120). The Farnese Herakles is illustrated in Vermeule (1978 : fig. 142 and pp. 133-135).

[22] Heuzey (1860 : 414); Lawrence (1979 : 119). Cf. Picard (1962 : 14, 16 n.1, 41 n.3, 178 and n.1).

[23] According to Strabo 10.2.21, the shrine of Herakles at Alyzeia had a group of Lysippan statues depicting the labor of Herakles. These

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were taken by some Roman general, who found the shrine deserted, and sent to Rome. Thomas J. Boyd will soon publish a full consideration of these reliefs.

[24] Polyb. 2.4.5; 2.6 f.

[25] Cf. pp. 327-28.

[26] For this treaty, see p. 332.

[27] Kastri's remote placement makes it inconvenient for anything other than a lookout post. Prof. Boyd has also told me that he believes the reliefs were never finished, and if this is so, it provides another indication that the site was quickly abandoned.

[28] Heuzey (1860 : 407-408). The dam may have been seen by Lolling (Urbaedeker, CLXXXIX), who mistakenly refers to it as a stone gate: "einem Sturzbache durchbrochenen Felstore." It does not resemble a broken-down stone gate in the slightest; and perhaps it makes better sense to assume he never saw the dam but heard a misleading description of it from some local inhabitant.

[29] This pipe runs over the back side of the dam and is laid in the original water outlet cut in the cliff face. It can be seen in Pl. 10.A. I visited the site in May, July, August, and one very dry October when the winter rains had not yet begun. Upon each occasion, water was flowing through the pipe.

[30] Since neither Heuzey nor Lolling mention this mill, it most likely had not yet been built. Heuzey's trip occurred in 1856 and Lolling's in the 1870's.

[31] Although the dam is completely silted up today, the sluice side of the structure still carries the main flow of the torrent. Therefore, the undercutting of these courses does not imply that the dam was functional as a reservoir; other indications suggest that it was not (see text below).

[32] Richard Jones of the Fitch Laboratory (of the British School of Archaeology, Athens) visually examined a piece of plaster from this patch under a binocular microscope. He concluded that the plaster had been contaminated by the soil. This means that the original poor quality plaster had been covered by soil and then kept damp for at least one year, whereupon the lime was partially replaced by soil particles. This accords perfectly with the idea that the dam was dug out and made functional for a short period of time, at least a year, and perhaps longer.

[33] There is no possibility of determining how long the dam was in use without knowing the various components of the water which left the deposit. However, since the mountains through which and over which

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this water must run, are composed of limestone, it is safe to conclude that a 0.003 m deposit on the water channel does not represent a lengthy period of immersion. Orlandos (1960 : 148-160) unfortunately does not give the thickness of the deposits on the water channels of the Castalian fountainhouse at Delphi. I have seen the structure, and the mineral deposits are considerable, in places more than 0.05 m thick. Such a deposit appears as a horizontal line near the bottom of the basin in his Figs. 6 and 8 (see also pp. 156-158). This fountainhouse was in use for a number of centuries and exhibits the sort of deposit we should expect to find if the Glosses dam was functional for a lengthy period. The decade of use I quoted in the text is merely a guess, but it was one which T. van Andel thought reasonable.

[34] See n. 32. Since water is the agent which leaches out the lime and replaces it with soil, the patch had to remain damp for a year or more. This makes sense if the dam were filled, even partially, with water.

[35] Cf. Heuzey (1860 : 406), who mentions that after only one night's rain, empty potholes in the torrent bed can be filled up with mud. Today, the potholes are filled with coarse pebbles. As can be seen from Pls. 9 and 11.A, mud is little in evidence in today's torrent bed.

[36] For examples of such dams and discussion of their general historical development, see N. Smith (1972). For additional examples of dams for irrigation, see Knapp (1919 : 73-74 and 81-82); for two examples of dams which channeled water into aqueducts, see Olami and Peleg (1977 : 135), and Lewis and Jones (1970 : 171-172); for the process called "hushing" cf. Pliny HN 33.74-75 and Lewis and Jones (1970 : 181-184); for examples of the dams used in this operation, see Lewis and Jones (1969 : 244-272).

[37] For a Greek diversion dike of supposed Mykenaian date, see text, p. 99 and n. 49; for a protective dam at Wadi Lebda near Leptis Magna, see Romanelli (1925 : 72).

[38] See particularly Vita-Finzi (1961 : 14-20).

[39] Although it is impossible to tell without an accurate survey of the valley, the fall between the Glosses pass and the site of the ancient city does not seem to be sufficient to allow the water to be led to the city from this dam. If the water was intended for use in the valley, then it was probably for agricultural purposes--i.e., for the watering of livestock or for the irrigation of crops.

[40] According to Knapp (1919 : 73), an immense quantity of water is needed for effective irrigation: "In distribution, 50% of the water gets lost, whilst 25% of the water flows away unused, leaving but 25%

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of the water to be actually used by the crops ... large amounts of water are always needed for proper irrigation."

[41] Cf. N. Smith (1975 : 3 ff.), for a brief discussion of irrigation in Egypt and Mesopotamia.

[42] Herodotos (1.193) describes the method of irrigation employed in Assyria and contrasts it with Egyptian methods. Aristophanes refers to "watered grain" (Nub. 282) and a passage of Euripides has been described by Knapp (1919 : 73-74) as perhaps "irrigation poeticized." Xenophon describes the system of the Tigris River irrigation ditches and compares the smallest to "little runnels such as we have in Hellas over millet fields" (An. 2.4.13). For a general treatment of this subject, see Knapp's article quoted above.

[43] I omit the impressive drainage networks of Mykenaian and Minoan palaces because they do not apply to the body of technical know-how available to the Greeks of later periods. The general lack of Mykenaian remains in this valley suggests we should date this dam to a much later period.

[44] Hdt. 3.60. See further, Kastenbein (1960 : 178-198), and Jantzen (1973 : 72-89).

[45] For the fountainhouse at Megara built by Theagenes, cf. Paus. 1.40.1. For a brief discussion of the Enneakrounos and the southwest fountainhouse in Athens, see The Athenian Agora: A Guide to the Excavations and Museum (3rd ed., Athens 1976) 154-156, 169-171 and references cited on p. 317. See also Winter (1971 : 47-53) for a very brief consideration of the care Greek cities took to assure themselves of a water-supply out of reach of the enemy.

[46] See Paus. 8.23.2 and Frazer (1913 : IV, 278), for a dike in the plain of Kaphyai (Arkadia) which does not remain today; Paus. 8.44.1 ff. and Frazer (1913 : IV, 419), for a dike near Tegea (and the two possible candidates for it); Paus. 9.24.1 and Frazer (1913 : V, 105, 114-117), for the Kopaic basin and the so-called Minyan Canals; and Paus. 9.32.2 and Frazer (1913 : V, 163-164), for the true dam at Thisbe.

[47] Frazer (1913 : V, 114).

[48] Frazer (1913 : V, 163-164 and bibliography).

[49] Jantzen (1975 : 70-71) refers to the dam as "FH II" in date. This must be a typographical error, as it should read "SH II."

[50] Cf. N. Smith (1972 : Pl. 10 and p. 39). For the original report of the dam, see Stein (1940 : 430).

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[51] N. Smith (1972 : Pl. 16 and pp. 55-56).

[52] N. Smith (1972 : 24).

[53] Cf. N. Smith (1972 : 33-34) for a definition of the different types of dams.

[54] Pl. Leg. 761a-b: καὶ τῶν ἐκ Διὸς ὑδάτων, ἵνα τὴν χώραν μὴ κακουργῇ, μᾶλλον δ' ὠφελῇ ῥέοντα ἐκ τῶν ὑψηλῶν εἰς τὰς ἐν τοῖς ὄρεσι νάπας ὅσαι κοῖλαι, τὰς ἐκροὰς αὐτῶν εἴργοντας οἰκοδομήμασί τε καὶ ταφρεύμασιν, ὅπως ἂν τὰ παρὰ τοῦ Διὸς ὕδατα καταδεχόμεναι καὶ πίνουσαι, τοῖς ὑπο-κάτωθεν ἀγροῖς τε καὶ τόποις πᾶσιν νάματα καὶ κρήνας ποιοῦσαι, καὶ τοὺς αὐχμηροτάτους τόπους πολυύδρους τε καὶ εὐύδρους ἀπεργάζωνται ....

[55] Aris. Met. 349b 30-34: ... καθάπερ ἔνιοι λέγουσιν, ἀλλ' ὁμοίως ὥσπερ καὶ ἐν τῷ ὑπὲρ γῆς τόπῳ μικραὶ συνισάμεναι βανίδες, καὶ πάλιν αὗται ἑτέραις, τέλος μετὰ πλήθους καταβαίνει τὸ ὑόμενον ὕδωρ, οὕτω καὶ ἐν τῇ γῇ ἐκ μικρῶν συλλείβεσθαι τὸ πρῶτον καὶ εἶναι οἷον πιδώσης εἰς ἓν τῆς γῆς ....

Aris. Met. 350a 7-9: οἱ γὰρ ὀρεινοὶ καὶ ὑψηλοὶ τόποι, οἷον σπόγγος πυκνὸς ἐπικρεμάμενος, κατὰ μικρὰ μὲν πολλαχῇ δὲ διαπιδῶσι καὶ συλλείβουσι τὸ ὕδωρ ....

[56] Strabo 7.7.6: Μακεδόνες δ' ὕστερον καὶ Ῥωμαῖοι καὶ ταύτην [Ambrakia] καὶ τὰς ἄλλας κατεπόνησαν τοῖς συνεχέσι πολέμοις διὰ τὴν ἀπείθειαν, ὥστε τὸ τελευταῖον ὁ Σεβαστὸς ὁρῶν ἐκλελειμμένας τελέως τὰς πόλεις εἰς μίαν συνῴκισε τὴν ὑπ' αὐτοῦ κληθεῖσαν Νικόπολιν ....

Dio Cass. 51.1.3: ... τοὺς μὲν συναγείρας τοὺς δ' ἀναστήσας τῶν πλησιοχώρων, συνῴκισε, Νικόπολιν ὄνομα αὐτῇ δούς.

[57] For the founding of the city in general, see Dio Cass. 51.1.3; Strabo 7.7.6; 10.2.2; Paus. 5.23.3; 7.18.8; 8.24.11; 10.38.4; Plut. Ant. 62; Zonaras 10.30; Suet. Oct. 18.96; Serv. Verg. Aen. 3.276; Mamertinus in Paneg. Lat. 11.9; Antipatros in Anth. Pal. 9.553.

[58] Paus. 7.18.9: ὡσαύτως δὲ καὶ ὅσα ἄλλα ἀγάλματα ἐκ τε Αἰτωλίας καὶ παρὰ Ἀκαρνάνων, τὰ μὲν πολλὰ ἐς τὴν Νικόπολιν κομισθῆσαι ....

[59] Strabo 10.2.2.

[60] Cf. Strabo 7.7.6: ἡ μὲν οὖν Νικόπολις εὐανδρεῖ καὶ λαμβάνει καθ' ἡμέραν ἐπίδοσιν ....

[61] Cf. Appendix F, pp. 478-79 and 483.

[62] Cf. p. 118 with n. 93.

[63] Cf. Appendix F, pp. 474-76.

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[64] Archaeologists from the University of Thessaloniki under the direction of P. Vokotopoulos are currently excavating the Basilica of Agia Sophia; cf. Ergon (1979) 16-17. I have learned from an interested villager (a very reliable and intelligent man) that the excavators believe they have found much pottery dating to the seventh century A.C. In 1972, P. Vokotopoulos dated the structure to well before 989-1038 A.C., the date of a coin found in a stratum above that of the basilica's foundations; cf. Vokotopoulos (1972 : 109-13) and also Ergon (1979) 17. Regardless of its absolute date, the period of this church was most likely one of relative prosperity in this valley; the basilica itself is not a poor structure and the "medieval fortress" which overlooks the pass blocked by the dam may well date to this period (I found a number of combed-ware sherds at this fortress which Professor T. Gregory assures me could date from the sixth to tenth centuries A.C.). According to the group from Thessaloniki, there is a fortification on Kalamos Island which possibly dates to this general period as well. But until the full findings of their work are properly reported, it is best to reserve judgement. For the evidence of this community's use of the harbor during this general period, see p. 119.

[65] If the Leukas Canal was open at this time, Plato could have put in at Alyzeia on one or more of his three trips to Syracuse. In Epistulae 13 (which may be spurious) he writes to Dionysios concerning a number of matters and mentions the outlay of 16 minas to a Leukadian ship. According to the letter, Plato had sent some items to Dionysios which were obviously conveyed by this ship from Leukas; it provides us with one of the few glimpses we get of shippers working out of Leukas. That Plato utilized a ship from here (or that it was believable for the author of this letter to assume this) hints that this may have been the route Plato (or others making a similar trip) had used.

[66] The Leges is perhaps the last dialogue that Plato wrote; he died in 347. Cf. the introduction to England (1921 : I).

[67] Cf. Tarn (1953 : 448 f.) who lists a number of reasons for the severity of this grain shortage. Yet, it is the widespread nature of this shortage as evidenced by the Kyrene inscription (Tod 196) which points to the effects of drought.

[68] Tod 196 = SEG IX, 2. The fact that Alyzeia is not mentioned proves nothing because the city could have procured grain from either Leukas or Palairos. It is possible that Palairos acted as the purchasing agent for all of Akarnania; cf. p. 313.

[69] This miscalculation or non-recognition of the silting up process indicates the builders' lack of experience in dealing with such problems. This is in full accord with the fact that there was no established tradition of dam building in the Mytikas Valley, or, for that matter, in Greece. Siltation is a malady which affects most dams; cf. N. Smith (1972 : 277, s.v. "siltation") for further examples of dams

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affected by this process. What is significant for the Glosses dam is the apparent speed with which the dam was rendered useless.

[70] Leake (1835 : IV,14-15); see also IG IX 1^2, 434, for a fragment of a tile taken from the neighborhood of Kandhila and deposited in the British Museum.

[71] Strabo 10.2.21; Cic. Fam. 16.2.

[72] When reading the accounts of Heuzey and Lolling, it must be kept in mind that their directions are almost consistently in error by 90°! Thus, Heuzey tends to make true north, east; cf. his plan of Palairos, Heuzey (1835 : Pl. X), and his description of the wall in question, (1835 : 408). He does not always make this directional error, however; cf. his plan of Oiniadai (1835 : Pl. XIV). When he says on p. 408 of his work that the north and east walls are both straight, east must be a typographical error for south. Lolling also makes this directional error, for he too mislabels the "straight walls" as being north and south (Urbaedeker, CXC). For a general discussion of this particular directional error along this coast, see Partsch (1887-88 : 73) and (1890-91 : 56).

[73] Tower 17's northeastern wall is badly broken down, but the line of the wall is assured by tower 18's almost complete state of preservation. The tower itself is a solid platform 4.75 m in height to the top of the in situ parapet blocks (Pl. 12.E; if there were two courses of parapet blocks instead of one, the full height would then have been between 5.5 and 5.75 m). A smaller enclosure is built into the top of the tower which may have originally been the foundations of a roofed guard station.

[74] Rhomaios (1919b : 40-41) reports the finding of a portion of a bronze statue on this hill and speculates that the temenos of Herakles mentioned by Strabo may have been located here. He later changed his mind; cf. text, p. 120. Klaffenbach (1935 : 722) reports that he saw the remains of a theater on this hill. But what Klaffenbach thought were the cuttings for seats, now robbed out, was apparently the area I interpret as a quarry. The existence of blocks, still in situ, i.e., not yet cracked out of the bedrock (cf. Pl. 13.A, B), supports the likelihood that my interpretation is correct.

[75] Heuzey (1860 : 409) apparently confuses the remains of the middle and eastern prominences. In fact, his whole description of this northern sector is confusing and misleading.

[76] As elsewhere in Akarnania, we are faced with the fact that the masonry style of the circuit is not uniform. In places it is polygonal (Pl. 13.F), in others, coursed polygonal (Pl. 13.E), and in others, coursed trapezoidal. Yet, in Akarnania, one must not be too hasty in attributing the different styles to different building periods. The

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differences may be due to different gangs of workmen, or to considerations of time and expense (see Appendix D, pp. 455-57). I noticed clamps in only two towers, and the clamps used differed in form. I have already mentioned the staple clamps ("Π" clamps) of tower 15; tower 20 exhibits one cutting for a wooden swallow-tailed clamp similar to those found at Pirgos, Astakos and Kechropoula. But the cutting here is very perplexing as only half of it was cut (Pl. 14.A). The block is either reused from elsewhere, or an original plan to clamp the tower was flirted with and then rejected. As the blocks for this area were quarried from the bedrock less than 500 m away (i.e., there was always plenty of building material nearby), and since no other examples of such clamp cuttings exist throughout the whole circuit, I prefer the latter possibility.

[77] This information has been obtained from the local priest who was present when the first grave was struck. The Archaeological Service was called in to exhume the graves, but a notice of their work has never appeared; presumably nothing identifiable was found.

[78] Heuzey (1860 : 410).

[79] Rhomaios (1919b : 40) believes the capital is from a grave structure; unfortunately, no picture accompanies the text.

[80] The precise chronology of this passage is not completely clear. Bury and Meiggs (1975 : 343) attribute the invasions to the late 390's while Klaffenbach (1957 : XV) dates it "inde ab aestate exeunti 389 usque ad ver 388." Although it would be interesting to know the exact years of these campaigns for historical reasons [for example, Cary (1953 : 52) interprets these two invasions as mere "demonstrations" made after the Spartan defeat at Lechaion in 390], the difference of a year or two does not affect the observations made in the text.

[81] Xen. Hell. 4.6.12.

[82] This regularity of tower placement allowed me to predict the existence of tower 2 which is currently obscured by a villager's house. When I asked the owner if he had incorporated a wall of "large stones" into his house, he smiled, took me into his saloni, pulled back a curtain, and revealed the inner side of the tower's north wall.

[83] For this period of prosperity, see p. 104 with notes, and Appendix F, pp. 474-79.

[84] This spit today is called the μύτη and no doubt gave rise to the general name "Mytikas" for the town which grew up on this spit.

[85] ADM 53-77.

[86] For the sea breeze effect along this coast, see Appendix A, pp.

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404 ff.

87 When Mytikas Bay was unsafe, boats could have moved elsewhere in this large embayment to find shelter--for example, under the protective lee of Kalamos Island.

88 See pp. 165 ff. and 226 ff. for the discussions of these two sites.

89 The surface of a dinghy dock will admittedly be closer to sea level than a dock for ocean liners. However, we are dealing with town docks and moles meant to serve as breakwaters and loading platforms. The extent of the installations will vary (compare Mytikas' dock with the South Mole at Leukas) but the ships serviced would be the same, and this, plus the degree of exposure to wave action, determine the height of the dock surface off the water. These two factors would be roughly the same for all the major harbors along this coast.

90 Cf. pp. 103-104.

91 Ps.-Skylax 34.

92 Strabo 10.2.21.

93 Strabo 10.2.21.

94 Cf. Appendix F, pp. 465 ff. and p. 483.

95 Cf. n. 64.

96 The structure was excavated by K.A. Rhomaios over three seasons (1919, 1921 and 1922), and was reported in a number of journals [παράρτημα to Deltion 5 (1919) 40; Praktika (1919) 47-49; BCH 44 (1920) 393-94; Praktika (1922-23) 23] before the final publication appeared [Rhomaios (1930 : 141-59)]. Some of the architectural elements, such as two very ornately carved antefixes, can be seen today in the Agrinion Museum. Rhomaios dates the structure on the evidence of these pieces to between 170 and 200 A.C. (p. 156). Note that Kurtz and Boardman (1971 : 301-302) erroneously imply that the tomb is of early Hellenistic date.

97 Rhomaios (1930 : 157-59); cf. also p. 143 of the same article for the recovery of a small clay statuette of Herakles from the general area of this mausoleum.

98 This myth has even found its way into the National Tourist Organization's pamphlet on this area of Greece, as fact.

99 The wall is composed of rubble and broken tiles set in a lime mortar. Many tiles are concreted to the ground between this wall and the present church structure. Cf. Rhomaios (1930 : 142-43) who believes

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that a series of churches existed here, stretching back to early Christian times.

[100] Compare the size of this dock with that of the South Mole at Leukas, and with other substantial harbor moles of this period; see p. 237.

[101] Cf. the remark of Lolling (Urbaedeker, CLXXXVII): "Es ist jedem entschieden anzurathen, in Zaverda ein Boot zu miethen, den der Berweg bietet gar keine Reize ...."

[102] Urbaedeker, CLXXXVII (see n. 103).

[103] The description of the route appearing in the text was made by comparing Lolling's account (Urbaedeker, CLXXXVII-VIII--please note that Lolling was traveling in the opposite direction, from Zaverdha to Kandhila): "Der Landweg beginnt, nachdem er den ebenen Raum zwischen dem Dorf und dem Berge durchschnitten hat, an der langen tiefen Schlucht emporzusteigen, die man östlich von Dorfe sich in der Bergmasse öffnen sieht. Der Weg ist für Pferde sehr beschwerlich und auch für rüstige Fussgänger unangenehm und ermüdend. Nach eine Stunde ist aber der beschwerlichere Theil zurückgelegt; dann wird der Weg allmählich besser und führt (25 Min.) in ein längeres schmales Thal. Die Berge ringsum sind kahl und ohne allen Reiz, sie verdecken nach allen Seiten die Aussicht nach dem innern Akarnanien sowohl als nach dem leukadischen Golfe. Aenlich ist auch das Thal beschaffen, nirgends ein bebauter Fleck, grosse durch die ganze Breite des schmalen Thales zerstreute Felsblöcke, durch welche sich der Fussweg windet, ziehen sich von dem Bergrücken zur Linken bis zu dem zur Rechten. Nach 15 Minuten findet man bei einigen Brunnen einige Laubkalzvien, elende Sommer Wohnungen für halbnackte Hirten. Kurz vorher biegt ein Weg zur Linken ab, um über steile Abhänge zu der Ebene von Mytika hinabzusteigen, die man einem langen Ravin folgend in nordwestlichsten Theile bei den Hirtenhutten von Hagios Vasilios erreicht (1 Stunde, 30 Minuten). Von dort gelangt man in einer starken ½ Stunden zu dem Dorfe Kandhila mit den Ruinen des alten Alyzia ...."

[104] Rhomaios (1930 : 143-44).

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CHAPTER VII

Palairos

A. The Valley (Cf. Fig. 18)

Useful Maps and Charts: 17; 20; 21,T.4

The Palairos Valley is a very fertile plain stretching northward from the head of Palairos Bay to the northern extent of the marshy lake called Voulkaria. North of the lake, low hills separate this plain from Aktion and the territory of Anaktorion. West of the plain is the mountainous hinterland between Palairos and Leukas called the Plagia Peninsula, and to the east are the Akarnanika Orē, a formidable barrier hindering easy communication with the interior.

Today, the main crops grown in the valley are cotton and tobacco, however, some seasonal fruits (particularly melons) and vegetables are grown too. On the upland fringes of the valley grow the ubiquitous olive and nut bearing trees like the almond and walnut. Many herds of sheep graze in the valley and, likewise, the hills are grazed by goats and a small number of cattle.

The water supply is not so limited here as in the Mytikas Valley, but there are no strong springs; water of varying quality is procured from wells. Although the modern town of Palairos (nineteenth century Zaverdha) pipes its water in from mountain springs near Monastiraki, all water for irrigation, the watering of livestock and personal use outside

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this town comes largely from wells.

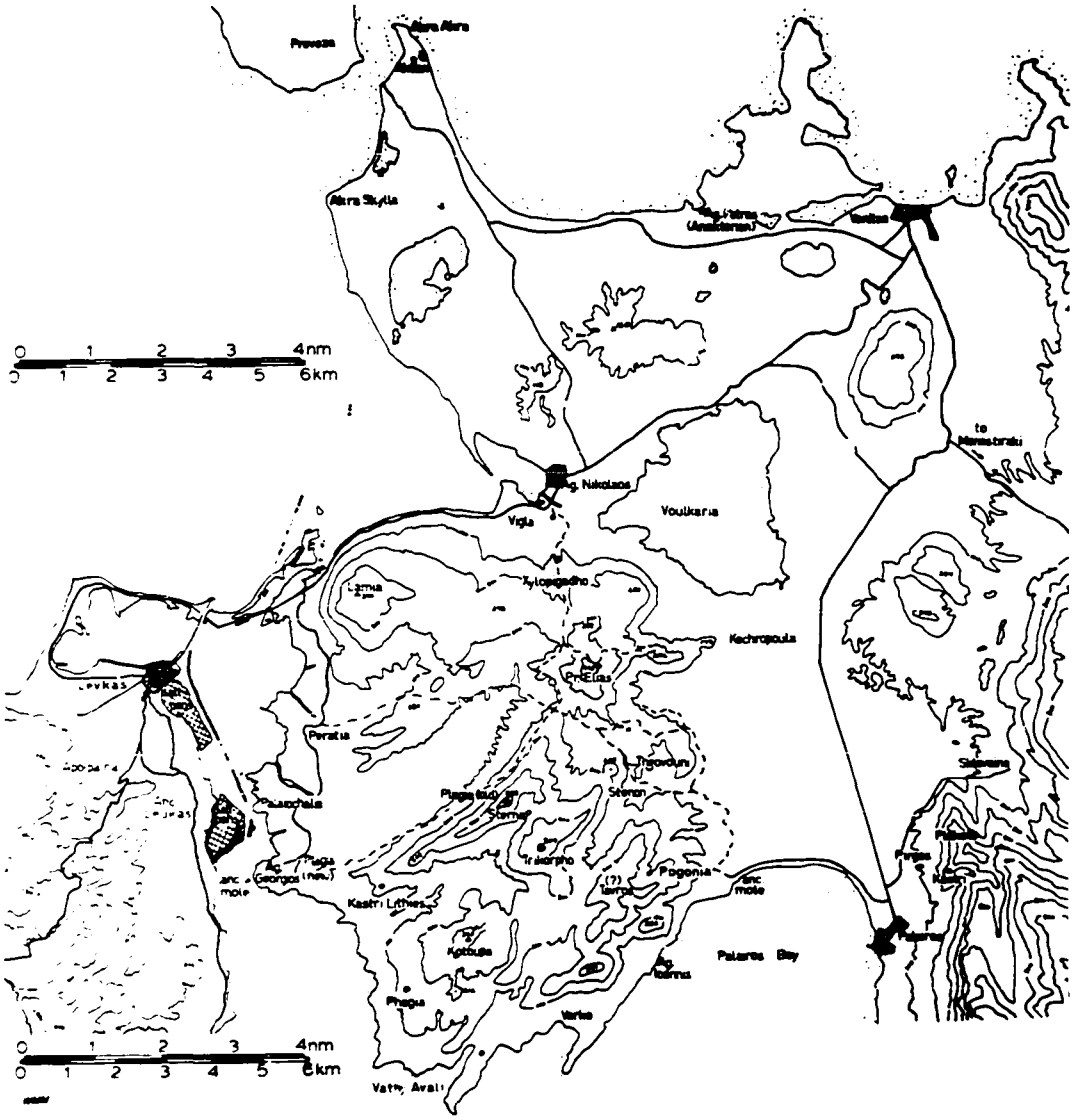

Fig. 18

B. Kastri above Agios Athanasios (Fig. 3, site 10; Fig. 19)

On the north side of the Plakoto pass atop a spur of Mt. Plakoto,

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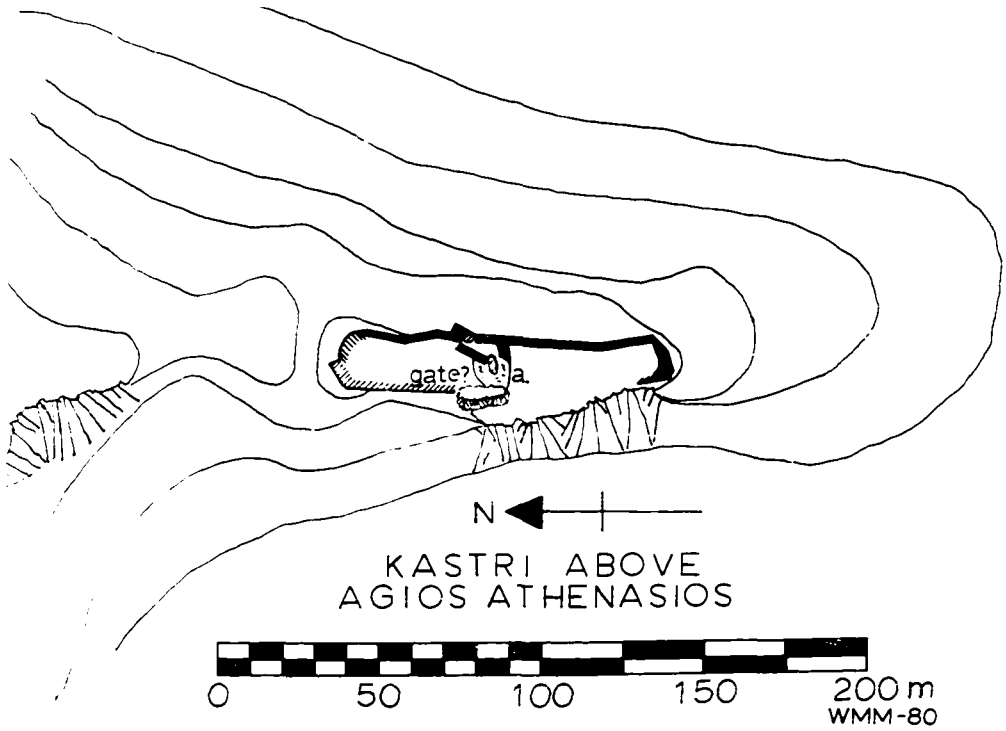

Fig. 19

directly above the small chapel of Agios Athanasios, is situated a small hill fort (Pl. 14.D). The structure is built along a section of the north-south ridge and is, accordingly, oblong in shape, its length exceeding its width by six to one. A crosswall originally separated the northern, more elevated, half from the southern half, but today, the wall's exact course is difficult to trace because it disappears into a mound of earth and rubble (Fig. 19, at 'a'). Ten m northeast of this area is a possible gate complex, but it is now too covered with rock fragments and another, later wall to be traceable. On the west side, near the crosswall, is another possible gate area, but the blocks have

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tumbled away and it is difficult to tell if a 1.10 m gap is a small gate or merely a spot where the stones have fallen away (Fig. 19, at the area marked "gate?").[1]

The walls of the fort are built in a polygonal masonry style (Pl. 14.C) but at jogs or corners approaching 90°, trapezoidal, horizontally coursed blocks are used. The interior of the fortress is littered with fallen rubble, but nothing much seems to have been removed from this remote site since antiquity. Held within intact walls, the interior has eroded little and therefore, surface sherds are rare. There are however, many rooftile fragments of both a heavy Korinthian and of a lighter Lakonian type; on some, a reddish brown glaze can still be detected. In the southern section are the remains of rubble structures; the rooftile fragments which litter the area would indicate that they were roofed.

There are no cisterns within this fort, so water must have been carried up the mountain in amphoras or skins. I found one amphora toe and the fragment of a handle. The few pieces of everyday pottery I noted were black glazed; the glaze was metallic and poor, but unfortunately none of the sherds were specifically diagnostic. This poor quality glaze, however, is in keeping with a general fourth century/Hellenistic date.[2]

The fort's purpose is clear. Its placement is too far removed from the route it hovers over to give the route any useful protection. In fact, its placement is analogous to that of its namesake in the Mytikas Valley, situated on an eminence in view of both the city and its non-

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intervisible harbor. In this case, the city is located across the valley at Kechropoula, and the harbor, near Pogonia. These two sites can "see" each other only through this fortress or through a garrison post called Pirgos which once protected the western approach to Kastri.

C. Pirgos on the Sklavaina Road (Fig. 3, site 9; Fig. 20)

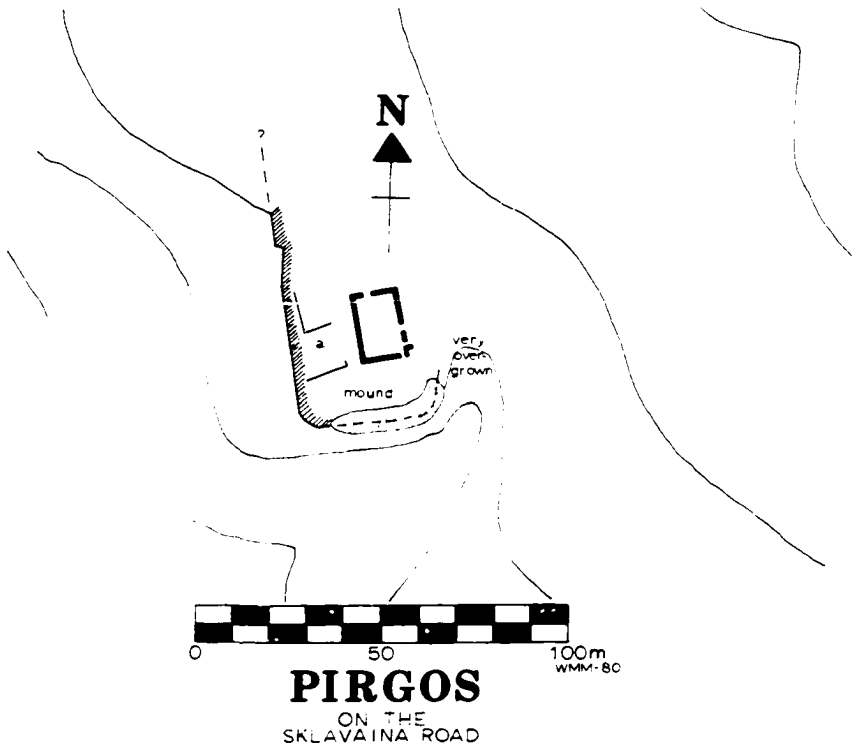

Fig. 20

Below and to the west of Kastri, on a raised terrace of land at the western fringe of the valley, is a small rectangular fortress made of horizontally coursed trapezoidal blocks. It sits on a terrace supported by a retaining wall of uncoursed polygonal blocks (Pl. 14.D). Since the

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terrace wall is essential to the fort's construction, these two walls must belong to the same building period. This fact is quite important because it provides us with a clear exception to the general rule that polygonal walls are earlier in date than ashlar or trapezoidal walls, and that the two styles cannot occur together in the same building phase. Masonry styles can be so localized or regional that the principles which hold true for one area may not apply for another area. Generalizations, therefore, should be avoided. In Akarnania, the evidence clearly shows that polygonal and trapezoidal styles occurred side by side. The latter style was utilized where strong corners were required, such as in towers, gates and jogs, and the former style was utilized, in general, for the straighter sections of circuit walls between towers and jogs, and for terrace or retaining walls. A roughly jointed polygonal style seems to have been preferred where speed in construction took precedence over strength or beauty.[3] These are merely general observations and exceptions do, of course, exist. Nevertheless, the contemporary utilization of the two different styles at this site is most likely related to the different functions of each wall.[4]

The fortress itself is preserved to a maximum height of five courses, although most of the wall blocks have been robbed away to the level of the second and third courses. As at Pirgos in the Mytikas Valley, bedrock is utilized here (in the northwest corner) as the first course. The overall dimensions of the structure are 18.8 m X 12.6 m and there is no evidence of internal rooms, columns, piers or supports. There certainly was a door, but its exact location is not recoverable. The

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three preserved corners of the structure are drafted.[5]

Foundations of buildings exist along the fort's western side which are composed of small stones, tiles and lime plaster mortar. In places they are founded on fallen blocks from Pirgos' walls. Because of this last fact, they clearly postdate the fortification and help to account for the wide chronological range of pottery found at the site. Sherds and glass fragments observed and recorded in the field below a collapsed section of the retaining wall range from the fourth century B.C. to the first century A.C.[6] The pieces do not group into periods, nor do they allow one to determine when the fortification went out of use, but two cautious observations can be made. Pirgos was most likely functional as a fortification during the earlier years attested by the pottery. There is enough justification for the fort's existence in the context of the fourth and third centuries to make it all but certain that Pirgos was functional during this time. And, considering the context of Nikopolis' foundation,[7] it is probable that the later pottery comes from the structure--probably a farmhouse--built on Pirgos' fallen wall blocks.

The placement of this fortification directly below Kastri leaves us two obvious possibilities. Either Pirgos protected the approach route to the lookout station above, or it was built to replace Kastri as a relay station for signals sent between the city and the harbor. If it was built to protect Kastri, then the two fortifications are roughly contemporary. If it replaced Kastri, then Kastri might date to the fifth or early fourth centuries. Unfortunately, I did not find any diagnostic sherds at Kastri. Yet, it would be difficult to justify the need

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for such a remote lookout station as Kastri during the latter fourth and third centuries when Palairos and Leukas were friendly toward one another. At this time, the well situated lookouts at Kotoupa, Sterna and Trikorpho could have better served the city as its eyes toward the northwest. A relay station was needed, however, and the smaller, less remote fortress of Pirgos may have been built to supply this need. Only the pottery at Kastri can resolve this question, which for now must remain open. One should also note that during those years when Akarnania was partitioned between Aitolia and Epiros (c. 252/50-231/0), Pirgos was perfectly situated to act as a garrison post for Epirote troops.[8]

Heuzey notices both these fortresses and interprets them as positions designed to protect the valley approach from Palairos Bay to Thyrreion.[9] He does not know of the existence of a protected harbor near Pogonia and assumes that those wishing to go up the valley to Thyrreion would disembark at the eastern side of the bay, while those going to Palairos would disembark at the western side.[10] Heuzey's interpretation is a bit surprising because it is difficult to imagine this position under the tutelage of Thyrreion with ancient Palairos so close at hand. There probably was a road leading up the eastern side of this valley, but it would be wrong to see it primarily as the route to Thyrreion's outlet on the Ionian, and protected as such. Furthermore, it is difficult to see what tangible protection lofty Kastri could provide to the route far beneath it.

D. The Ancient City of Palairos (Fig. 3, site 12; Figs. 21 and 22)
Other surveys: Heuzey (1860 : Pl. X); v. Marées (1907 : Karte 5)

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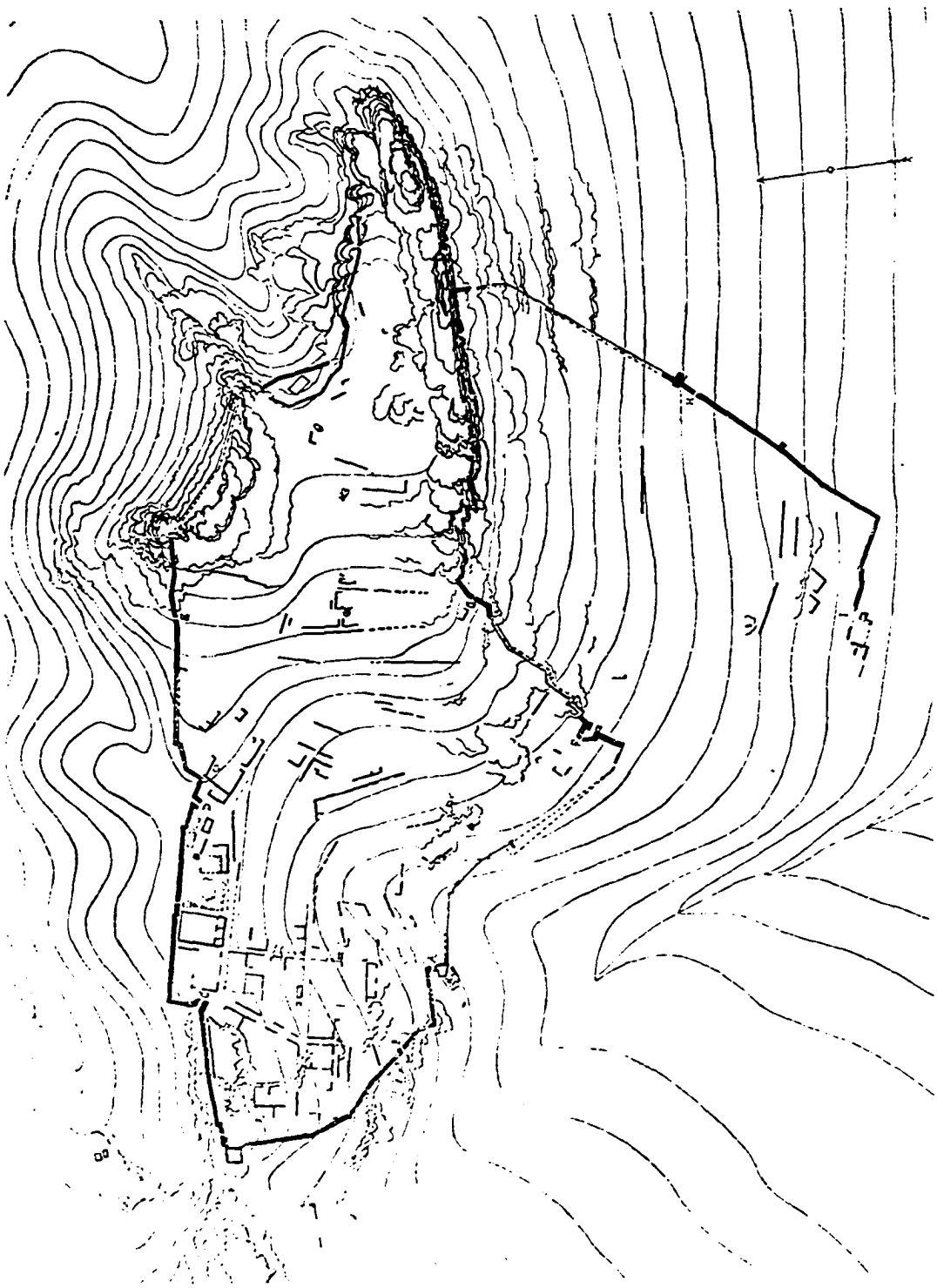

Fig. 21

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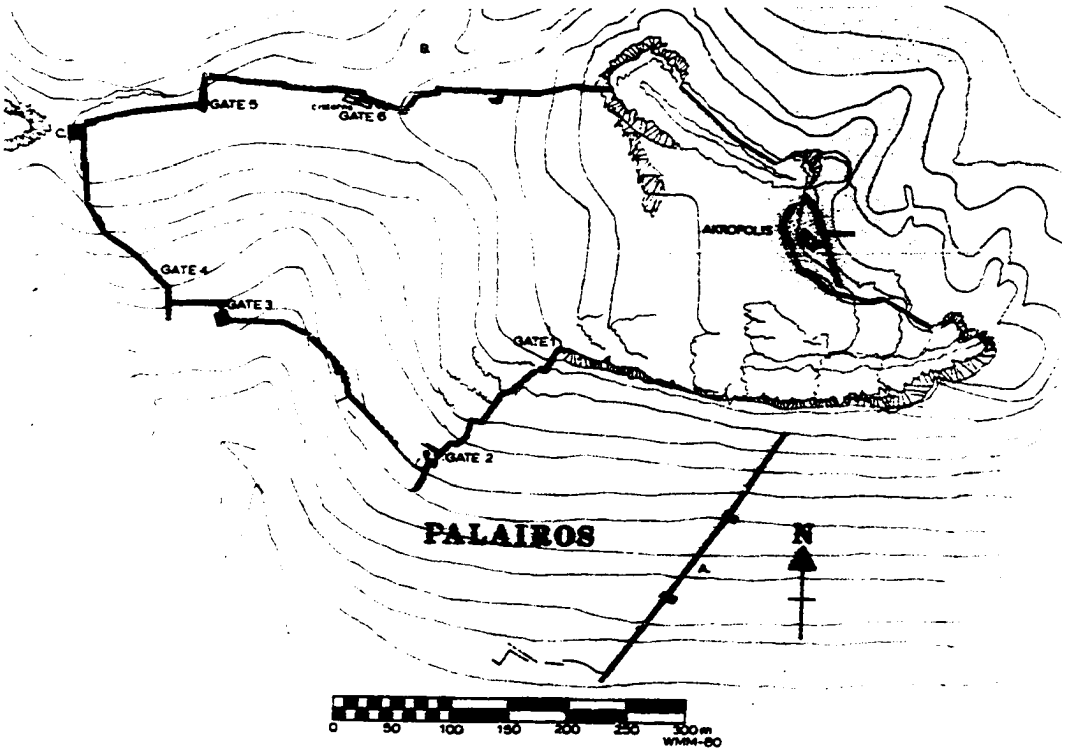

Fig. 22

Heuzey was the first to identify correctly the well preserved remains at Kechropoula as the ancient city of Palairos and his identification has since been supported by inscriptional evidence.[11] Heuzey's plan of the site, however, is quite inaccurate, although his written observations are good when it is remembered that all his directions are in error by a variation of 90° west (i.e., his north is true west).[12] The best plan is that made from Noack's survey of 1916 (Fig. 21) which I have found to be extremely accurate. I have included my plan as well (Fig. 22), which is less comprehensive than Noack's, but as concerns the city walls, somewhat more accurate. The similarity of the two plans

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speaks well for the accuracy of both surveys.

The ancient city occupies the southern face of a saddle between two rocky prominences which form an eastern spur of the mountain Profitis Elias. To the north is the marshy lake Voulkaria, the ancient Myrtountion according to Strabo 10.2.21. To the west rises the massif of Profitis Elias to the east, the akropolis of the city, and to the south, a small valley which opens into the flat vale of Palairos (Pl. 15.A).

The city is amazingly well preserved, and owes this condition to its remoteness. For reasons unknown to us, no subsequent community chose to settle on or near the site of this ancient city. Free from cannibalism, the walls have remained largely intact, and to a greater degree than any other city along this coast, so have the structures within the circuit. Enough has survived to allow a fairly accurate picture to be drawn of this city during its most prosperous years, the Hellenistic period.

There were two major approaches to the city, one from the south and another from the north. The southern road led up the valley from the harbor near Pogonia. Its existence is betrayed by the numerous tombs which once flanked its course and now lie open, their contents plundered long ago.[13] Occasionally a new tomb is found, but it quickly meets the same fate as the rest. Even the funerary inscriptions which once littered the slopes below the city have been carried off and sold.[14] On the steep slopes just beneath the city, small terraced plots are visible which probably once served the burial needs of family groups.[15] Some of the tombs were elaborate; most of the architectural elements

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have been carried off, but here and there are the fragments of small columns and threshold blocks with cuttings to receive the revetment slabs. The poorest types of graves are found here too, intermixed with the wealthier ones. Large Korinthian pan tiles were used to line a shallow cist and two or three were laid across the top. An even less elaborate variety used Lakonian tiles to protect the grave. After the body had been placed in a pit and covered with earth, tiles were laid over this small mound and were in turn covered with more earth. The fragments of both types of tiles litter the two cemetery areas at Palairos.[16]

The southern road approached the city from the southeast and branched somewhere directly beneath it. At least one branch passed close by the south end of the proteichisma 'A' (Fig. 22; Pl. 15.C) and wended its way up the slope to gate 2. North of this road, the hillside was once covered with houses. Today, all that is left are the terraces and terrace walls which both supported the houses and apparently provided for their defense.[17] The terraces are bestrewn with sherds of a domestic nature dating from the fifth (perhaps the sixth century) to the third centuries B.C.[18] Inside gate 2 (Fig. 22), a constricted complex gate which forces those entering to pass through a dog-leg,[19] there is a flat terrace on which a few disjointed lines of blocks remain. Northwest of the gate's inner side is a semicircular line of blocks which may have once formed the foundation of an exedra, but more probably served as a base for a few statues.[20] The slopes above this terrace are steep and rocky and the circuit wall running northeast from gate 2 displays an

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erratic course because, where possible, it is founded on outcroppings of bedrock. Ten m from where it meets the rough spine of the akropolis ridge is a small intact gate (Fig. 22, gate 1; Pl. 15.B); the masonry here is in a regularly coursed trapezoidal style, but this is not the case throughout the entire length of this wall. Both above and below gate 2, the wall is polygonal in style.

The other branch of the southern road leads up the valley below gate 3. Some 600 m southeast of the gate are the foundations of at least one large building. According to Heuzey, the two sacred precincts of Zeus and Athena should be placed here.[21] Directly to the south of gate 3, a small spring bubbles out at the base of a large fig tree, but there is no evidence that it was used by the inhabitants of the city at its present location.[22] I noticed at least one well on the slopes southeast of gate 6, and there are two large cisterns near gate 6 (Pl. 16.E) and another large one on the akropolis (Pl. 17.E). In the summer, this spring (wherever it originally was located) was obviously not always able to meet the city's needs.

Gate 3 (Pl. 15.D) is well protected by a spur of wall projecting from the circuit south of gate 4 and by a large tower set immediately to the south of the gate itself. This tower had a solid base and at least two floors; above the one preserved loophole are cuttings to receive the floor beams of another story. Although fallen blocks choke the original passageway through the gate, two large lintel blocks still span the opening. There is a mixture of masonry styles here; the tower exhibits coursed trapezoidal masonry, but the walls running east and west are

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built in a polygonal style.[23]

To the east, across the bottom of a natural amphitheater in the hillside, runs the wall linking gate 2 and 3 (Pl. 16.A). It is poorly preserved and was overlooked by Heuzey, yet its course is clear until it approaches gate 2, where all traces of it disappear.

To the west of gate 3 runs a short wall which butts into a regularly coursed wall of trapezoidal blocks forming the western wall of the city. The western stretch is the most impressive one of the entire city circuit; it is preserved to a height of 16 courses in some places and manages to preserve its horizontal coursing over some very steep terrain (Pl. 16.A, B).[24] A small gate pierces this wall toward its southern end (gate 4) and two flights of stairs ascend its inner face. The best preserved and longest flight of stairs is the one northwest of gate 4. It is composed of 21 steps and measures 9.0 m in length, with the top step being essentially a platform 2.2 m long. The rise of each step is 0.33 m, the width, 1.2 m and the depth, 0.35 m.[25] Other flights of stairs occur to the west of the cisterns between gates 5 and 6, to the north of gate 5, and to the east of tower 'C' (Pl. 17.A).

This substantial tower (tower 'C'), situated at the northern end of the western wall, is preserved to a full height of 19 courses--some 10 m in elevation (Pl. 16.C). Like the tower flanking gate 2, this one exhibits a solid substructure which comprises the first 12 courses. Above the twelfth course rises a superstructure, which today is largely broken away. Originally it must have contained numerous loopholes or windows since this large tower makes best sense as an artillery bas-

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tion.[26] It faces the heights above the city and protects the one place where an army from the south could link up with one from the north thereby effecting a circumvallation; the bastion also overlooks the route leading along the wall to gate 5.

What few blocks remain of the bastion's superstructure exhibit the swallow-tailed wooden clamp cuttings which we have encountered at Astakos, Pirgos in the Mytikas Valley and Alyzeia. As at Pirgos, one of the superstructure blocks has cracked in such a way to allow one to observe through a small hole an entire in situ clamp cutting, perfectly cut and aligned, but empty--further proof that these cuttings once held wooden clamps.

The building sequence of this corner of the city is very complex. In the north face of the bastion I call tower 'C,' 6.9 m back from its western end, there is a very clear drafted corner running vertically up the full height of the wall. Apparently this whole corner bastion, along with its wood clamped superstructure, was built out from a pre-existing corner. Furthermore, the masonry style of the wall between tower 'C' and gate 5 is unique; its outside face is built with well jointed horizontally coursed trapezoidal blocks, but its inner face changes in style after a small jog at the staircase just east of the tower. At the staircase the wall exhibits a style similar to the outer face, but beyond the jog, the masonry deteriorates into a loosely jointed coursed polygonal style which runs toward gate 5 (Pl. 17.A). The south face of tower 'C' is also not of one uniform style (Pl. 16.C), since a small segment of the tower's substructure is composed of poly-

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gonal blocks. And since these blocks extend further west than the drafted corner on the tower's north face, probably more than two building phases are represented here.[27] This is not surprising, given the importance of this tower's position; more perplexing however, is the wall with its two faces in different masonry styles.

Unless we want to assume that a preexisting polygonal wall somehow lost its outer face which was later repaired in a coursed trapezoidal style, we must accept the inevitable that the two faces were constructed at the same time. A well jointed regular face of trapezoidal blocks was built on the exterior, but less care and time was spent on the inner face. It may have been constructed this way to save time and it certainly would have been less expensive to build than a wall with two carefully finished faces.[28]

At the eastern terminus of this interesting wall is an equally interesting gate (gate 5; Pl. 16.D) exhibiting an intact facade arch very similar to the one in the harbor fortress at Oiniadai (Pl. 12.E). The aimilarity between the arches of these two gates has been noted by T. Boyd who remarks that "each vousscir is unique in size and in shape and [that] the radial joints do not all radiate from a common center of curvature."[29] He also notes that the radial joint faces are not all parallel to one another. These rather odd similarities lead him to conclude that the arches are contemporaries. If this is correct, at least some of the northern wall is dateable to the mid-to-late third century; it seems logical to assume that tower 'C' was built at this time too.[30]

The route which exits here at gate 5 continues toward the west and

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branches a short distance past the northwest bastion (tower 'C'). One branch continues west and ascends the flank of Profitis Elias to a hill-top sanctuary.[31] The other branch descends to the north, at least as far as some foundations which exist in the ramma about 100 m from the northwest bastion (cf. Fig. 21). Just below these foundations to the northeast is part of the marble base of an honorific statue set up during the priestly te. of Alexippa. On the evidence of E. Preuner, who found terracotta statuettes here, Kirsten believes this was a sanctuary of Artemis. In addition, Preuner reports that "einige statuarische Fragmente" were removed from here and conveyed to the National Museum in Athens.[32]

On the other side of the ridge west of tower 'C,' about 110 m to the southwest of the tower itself, is the relief of a coiled snake (Pl. 17.B). Nearby, Rhomaios reports finding terracotta statuettes, a dedicatory inscription of fourth century date and two sculpted marble female torsos.[33] The inscription and torsos have since disappeared. In the path between the tower and the ridge (about where the 'C' appears on Fig. 22) is an inscription bearing a list of names associated with some cult.[34] Although none of these inscriptions nor the snake are exactly in situ, the locations of at least two sanctuaries to the west of the city circuit can be tentatively identified. It is fairly certain that at least one sanctuary can be identified with the foundations near the Alexippa inscription on the evidence of the statue fragments and terracotta statuettes which were found here. And according to Rhomaios, another sanctuary should be placed κατὰ τὴν πρὸς νότον βλέπουσαν

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πλευράν, apparently at the foundations southwest of the city's northwest bastion.[35] The snake relief, dedicatory inscription, etc., would thus belong to this sanctuary. The inscription lying in the path near the northwest bastion could logically have come from either of the two sanctuaries, or even from a third.

Inside the walls between gates 5 and 6 are the foundations of large rectangular buildings oriented on an apparent north-south, east west grid. It is highly probable that the agora of the ancient city was situated here. For here are located two large public cisterns (Pl. 16.E), the two most ornate gates, the most monumental building foundations, and the most flat and suitable terrain (Pl. 17.C).

Gate 6 is clearly the main northern entrance to the city; it is more monumental in aspect than gate 5,[36] and there is a cemetery outside the walls here. It too, once boasted an arched facade which is now fallen, but there are enough of the voussoir blocks in the gate's passageway to show that its original appearance was similar to that of gate 5. Like gate 5, it is recessed somewhat to allow enfilading from the walls on both sides of the entrance.

The route which leaves the city here follows a fold in the hillside and drops down northward to the marshy plain. On both sides of this path, but particularly on a small hill to its left (Fig. 22, at 'B'), are numerous tombs. Due to the area's inaccessibility, the funerary inscriptions here have not been removed. Most of them have been seen and recorded by G. Klaffenbach in IG IX 1^2, part 2; the few I observed which do not appear in his corpus, I have included below in a separate appen-

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dix.[37]

It is striking that all the grave stelai I observed were of one general style, with carefully inscribed, shallow letters. Judging from the letter forms, the stelai are Hellenistic in date; some may date to the late fourth century, but certainly no earlier than this.[38] It is impossible to tell without the full assemblage of graves, but random selection has provided us with a seemingly chronological homogeneity. At least two earlier grave inscriptions have been found here, but in general, this area seems not to have been systematically utilized before the late fourth century. In fact, most of the grave inscriptions found here date to the third century according to Klaffenbach.[39] Earlier graves may have been here, but they were either unmarked or relatively so few in number, that chance has preserved only the slightest evidence of their existence.

The Akropolis. The circuit wall continues its way from the main gate toward the east, rising up the slopes to where it joins an outcrop of rock near the summit (Pls. 15.A and 17.C). As can be seen from Pl. 15.A, the akropolis area is composed of two rocky outcrops--one facing the north, the other, an elongated east-west spine, facing south and east. It is this latter spine to which the two eastern walls of the city abut. Midway between the two rocky prominences on the northeast side, there is a possible approach to the akropolis from below. Here, the residents of the ancient city built two walls and placed a large rectangular cistern in between them (Pl. 17.E). The cistern is partly rock-cut and partly built up out of large, regularly coursed trapezoidal blocks which were then covered with hydraulic cement. It may be inter-

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esting to note that the defense walls encircling this cistern are polygonal in style. Lest we ascribe some functional importance to this difference in styles, it should be noted that the two cisterns near gate 6 are built up with polygonal blocks.

The inner wall continues to the southeast and terminates in a bastion composed of loosely fitted polygonal blocks (Pl. 17.D). The exact style of the masonry here is unlike that found anywhere else in the city circuit. And so is the view. This would have been a perfect position from which to send signals to Kastri and Pirgos across the plain, and via them, to the harbor. Furthermore, it is the city's best view of the plain it controlled.

Residential Areas. Everywhere inside the circuit, except in the agora area, houses cluttered the slopes. Some sort of semi-regular street grid existed which could be largely recovered if the site were systematically photographed from the air. Noack's plan (Fig. 21) allows one to see some sort of pattern, nevertheless.

As previously noted, house foundations exist south of gate 3 (Noack's gate 'A'), inside the eastern proteichisma and along the terraces to the north and northeast of gate 3 inside the city circuit.

The Date of the Walls. Too many questions have been raised above concerning the dating of Akarnanian fortification walls by their masonry styles to offer us much help with the complex circuit at Kechropoula. Various components of the dating theories for the walls here have been questioned piecemeal in the notes, and it may now be helpful to con-

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sider the theories in toto.

Noack would reconstruct the building of the enceinte in five periods. An original circuit was built in "Cyclopaean technique" (1), then a circuit was constructed in a well bonded polygonal style (2), next the eastern proteichisma was built (3), then horizontal coursing was built into the circuit wall (4), and finally, the northwest bastion was added over an original smaller tower (5). Period 1 was pre-fifth century, period 2 in the fifth century, period 3 dates to the time of Sollion's acquisition (i.e., after 431), and periods 4 and 5 date to the fourth and third centuries, respectively.[40]

Kirsten rightly objects to Noack's rigid theory, and in line with his argument concerning the late date of Oiniadai's circuit (see n. 10, p. 51), argues that Palairos, too, was unwalled until the third century. It was then, during the city's greatest period of prosperity, that the circuit with all its various masonry styles was built; different styles were utilized because it was believed that different types of terrain demanded different and suitable styles of masonry. He agrees that the eastern proteichisma is a later addition.[41] The problems with such a theory have already been discussed.[42] It should also be noted that the historical events of 391 (or 389) indicate that the Akarnanian cities were walled by this time; Xenophon's account (Hell. 4.6 - 4.7.1) makes no sense otherwise.[43] In fact, it can be shown that Kirsten's entire theory is untenable.[44]

But what are we left with? Since we really possess only a few facts which might help date the walls or explain the differences in ma-

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sonry styles, our conclusions must necessarily be restricted or general.

We know from the passage of Xenophon that the Akarnanian cities were sufficiently walled to defend against the attacks of Agesilaos at the beginning of the fourth century. It is impossible to say how much before this date the city was provided with walls. Judging from the pottery evidence on the site, the city was located at Kechropoula in the fifth century and possibly the sixth. Logically, the akropolis would have been defended first and here is where I believe the fifth century defenses were, a clear relic of which is the eastern bastion (Pl. 17.D). Kirsten may well be correct that the general city circuit dates later, rather than earlier, but the entire circuit was certainly not constructed in one building period. Kirsten is also probably correct in placing the "Blütezeit" of Palairos in the third century: most if not all of the funerary stelai date to this period; the harbor was fully functional in this period (see below); the probable date of the arched gates is within this period; and the surrounding watchtowers and garrison posts were functional during this period.[45] Although the city's defenses certainly had reached their final form during this period, it would be difficult to assign one segment or another to particular historical events. Our one possible fixed point is the arch of gate 5, yet, even our evidence concerning its date could hardly be termed conclusive.[46]

I offer these general observations in conclusion. First, the akropolis was provided with some sort of defensive works, next (certainly by the beginning of the fourth century) the city, at least in part, was enclosed by a wall. This wall was repaired, arched gates were con-

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structed and an artillery bastion added to the northwest corner during the course of the fourth and third centuries. It is difficult to assign a date to the eastern proteichisma. A priori it could have been built before or after the main city circuit. Most scholars who have discussed this circuit have dated this wall after the construction of the main circuit. Yet, reasons such as the "regular placement of the two towers" as indicating a later date are not overly compelling.[47] The nearby fortress called Sterna exhibits a crosswall with two towers of "regular placement" and it probably dates to the mid-fifth century.[48] At Palairos, inside the eastern proteichisma, houses existed in the fifth and possibly sixth centuries. It is possible that the eastern proteichisma was constructed as an economical defense against pirate attacks from the sea. With the eastern flank protected, the inhabitants could have offered an adequate defense without needing to shut themselves behind a complete circuit. Conversely, such a circuit could have been built later, in reaction to full army invasions such as that of Agesilaos. Our knowledge of the site's history is really too scanty to allow us to date this wall with any certainty.

Concerning the numerous masonry styles at Palairos, no simple explanation will suffice. Many factors could have combined to produce the final mixing of styles: different gangs of workmen, different periods of building, the suitability of a particular style given a particular type of building stone, considerations of time and expense, etc. In short, a full explanation is impossible considering our present knowledge of the site and its history.

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E. The Sanctuary atop Profitis Elias (Fig. 3, site 13; Fig. 23)

Useful Maps and Charts: 17; 21,T.4

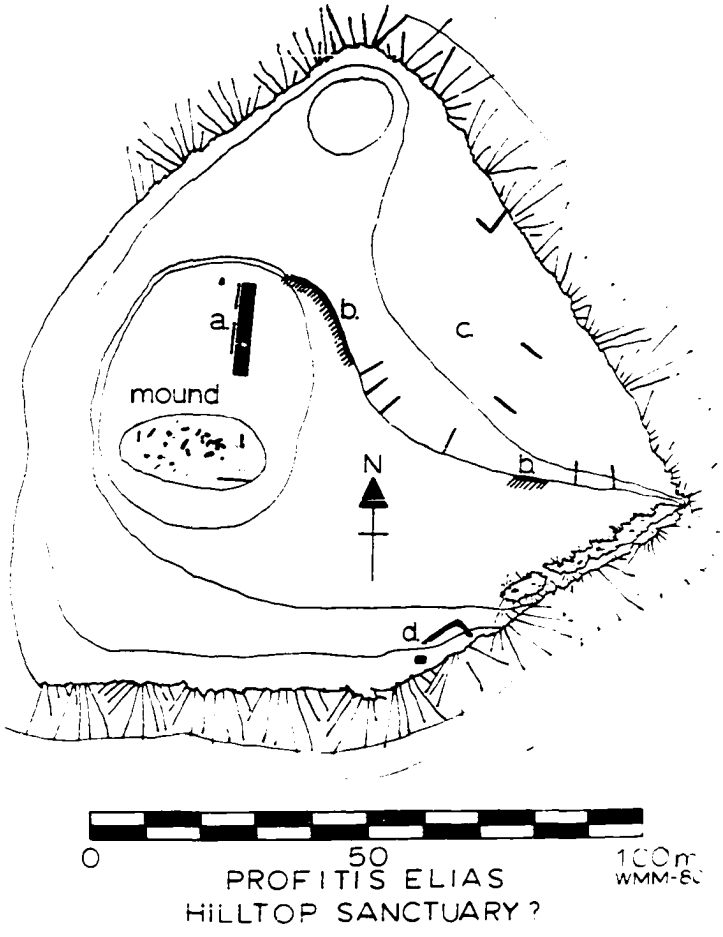

Fig. 23

Due west of the ancient city, exactly on top of the 433 m peak called Profitis Elias, is a very poorly preserved complex of ancient structures. The view from here is fabulous; the site literally hovers

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above the ancient city of Palairos (see Pl. 15.A which was taken from here).

This site was first noticed by Noack in 1906 and reported in a footnote in 1916.[49] Kirsten visited the site in 1939 and his observations are included in his RE article on Palairos.[50] Both scholars describe the ruined existence of a Doric peripteral temple with a probable 6 X 13 arrangement of columns. The cella measured 12.15 m by 35 m, "die Proportionen des olympischen Zeus- und des aiginetischen Aphaiatempels."[51] The width of the peristasis was 25 m, its length not discernible. Noack observed a rooftile with a black maeander pattern on a yellow ground and concluded from this that the temple was built in the first half of the fifth century, or just at the end of the sixth century. Other observations made by Noack included the use of "Z" clamps in the temple and a fragment of a colossal finger from the cult statue. Noack believed this site was analogous to the temple of Zeus Karaos above the city of Astakos.

We are fortunate to have these observations but unfortunate not to have a plan of the site as it appeared in 1906, or even 1939. Today, the site appears as shown in Fig. 23. No one in his wildest imagination would propose the restoration of a 6 X 13 peripteral temple on this site, particularly of the size indicated by Noack and Kirsten. Area 'a' displays the only bit of in situ podium left, and it measures a paltry 2.3 m X 16.3 m. It too has been broken apart and many of the blocks lie in a jumble (Pl. 18.D). Originally, there were at least three courses because cuttings for "Z" clamps were visible on the top of

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the second course; all metal clamps have been robbed out. South of 'a' is a mound composed of shattered blocks--as if a tomb had been broken apart. Here were two fragments of a Doric column; the center line of the flutes were 0.05 m apart with very shallow hollows. At the mound's southeast corner, a line of blocks is visible running into the mound. There is also a short line of blocks at the western extremity of the mound. A few meters west of the north end of 'a' is a small bedrock pillar standing about 1.0 m tall with a shallow rectangular cutting to the north of it. I originally conceived of this pillar as part of an entranceway or propylon, but if a large temple is to be restored at 'a,' I have no idea what function this bedrock pillar and cutting served.

Due east and southeast of 'a' are a few heavy polygonal retaining walls (Fig. 23, at 'b') which help to buttress the upper level (Pl. 18.A). The lower level 'c' is littered with rubble, but here and there, laid lines of stones can be made out. I also noticed a threshold block and was told (although I did not see it) that there is a well in this area. It is possible that there was some sort of katagogeion here to house worshippers during festival periods. With the remains of this lower area so overgrown and poorly preserved, any attribution of a function to it must remain tentative.

Southeast of the mound at 'd,' built into the ruined side-wall of the chapel of Profitis Elias, are two Doric column drums (Pl. 18.C). The diameter of one was measurable: 0.77 m. Since the distance from the center line of flute to flute was 0.135 m, there must have originally been 18 flutes.[52] The impolion cutting was square and stepped,

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i.e., an outer square cutting (0.10 m X 0.10 m) narrowed via a step to a smaller inner square cutting (0.05 m X 0.05 m). One drum length was 0.52 m; the other was 0.78 m.

It is clear there was once a sanctuary here, yet for its true nature and possible date, I am reluctant to rely on the observations of Noack and Kirsten. I find it difficult to believe that there was ever room here for a temple whose cella measured 12.15 m X 35 m, built with the same proportions as the temple of Olympian Zeus and of the Aphaia temple at Aigina. If this were true, the original measurements of the stylobate would be roughly 25 m X 57.9 m.[53] There is hardly room here for such a large structure as this. If we apply the appropriate column proportions from the two above temples to the drums located at 'd,' their general restored height would be a mere 3.63 m.[54] If we assume that these obviously small columns come from the interior, we then have to explain the still smaller columns represented by the two fragments on the mound. There is every indication that a much more modest structure stood here than a 6 X 13 peripteral Doric temple which was almost as large as the gigantic temple of Zeus at Olympia. It is possible that robbing of the site subsequent to 1939 has so altered its appearance that Noack's and Kirsten's conclusions seem grandiose today. Yet, the site is so remote that it makes little sense to postulate a large scale removal of building stone. I still remain unconvinced by their report.

F. The Route from Profitis Elias to Agios Nikolaos (Cf. Fig. 18)

Useful Maps and Charts: 17; 21,T.4

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The probable existence of a route from Palairos to the hilltop sanctuary has already been discussed. There seems to have been another route to this sanctuary which approached from the west. It left the coastal plain near the present day town of Agios Nikolaos, situated between the marshy lake of Voulkaria and the sea. The route passed close under a small observation tower called Polyvoleio and ascended toward a narrow gap in the hills between the peaks of Kimadhio (hill 281 on Map no. 17) and a subsidiary peak of Lamia (hill 298 on Map no. 17; hill 273 on Map no. 21,T.4). Just before one emerges from the pass into the plain called Xylopigadho, there is a small garrison post on the left side of the path and a well, composed of very large stones. The route passes northward through Xylopigadho to ascend the western side of Profitis Elias.

G. Polyvoleio on Vigla (Fig. 3, site 17; Fig. 24)

Useful Maps and Charts: 17 (atop the small hill indicated directly south of the bridge at Agios Nikolaos)

Atop the small hill called Vigla are the heretofore unreported ruins of a small circular tower surrounded by a small, poorly preserved circuit wall. The tower itself is composed of well dressed rounded blocks with flat (i.e., smooth) exterior faces.[55] In places, it is preserved to a height of two courses and blocks above this (not in situ) attest at least a third course. There is no evidence at this lowest level of a door or of any clamping. At this elevation, the tower was a solid platform. The area around the tower was originally hemmed in by a double-faced polygonal wall, but today, only sections of this enclo-

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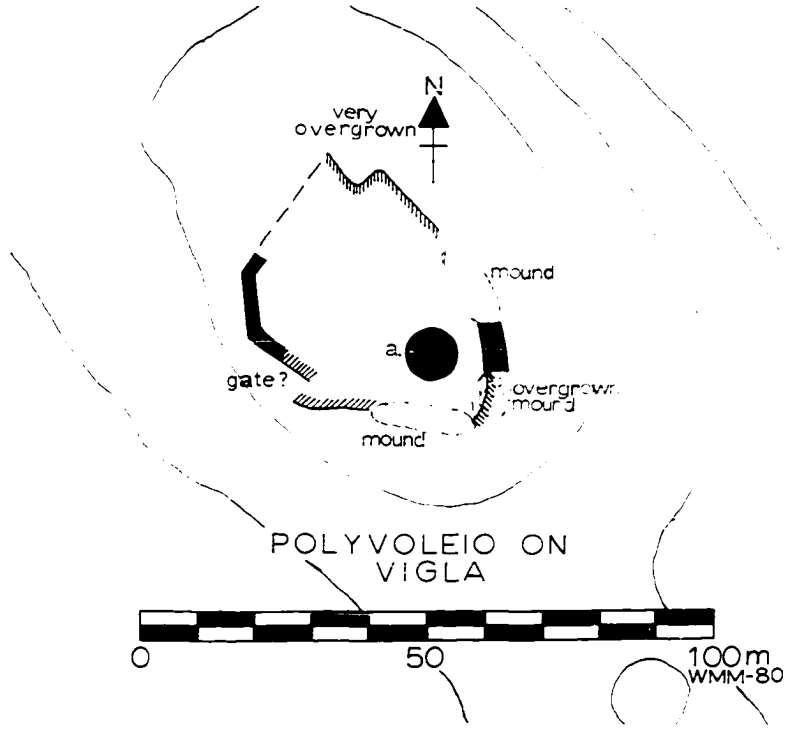

Fig. 24

sure are preserved; some appear as no more than heavily overgrown rocky mounds. Perhaps the gate to this tower area existed to the west, yet even this is uncertain.

This well dressed, rounded tower best fits into the Hellenistic period,[56] but as concerns its precise date, there was not enough diagnostic pottery in the area to say. Some sherds from open-shaped vessels were found with a very poor quality black glaze (it appeared as a dirty brown color which had flaked off in many places) and this, at least, does not contradict a Hellenistic date. Originally this tower may have served the purpose of a small garrison post to oversee the coast road leading from Leukas to Aktion, the route inland to Xylopigadho and the

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route around the southern perimeter of the lake to Palairos. It may also have served as a local lookout station toward the northwest.

H. Kastro at Xylopigadhc (Fig. 3, site 16; Fig. 25)

Useful Maps and Charts: 17 (located south of Agios Nikolaos in the pass between hiils 298 and 399); 21,T.4 (in the pass between hills 273 and 335)

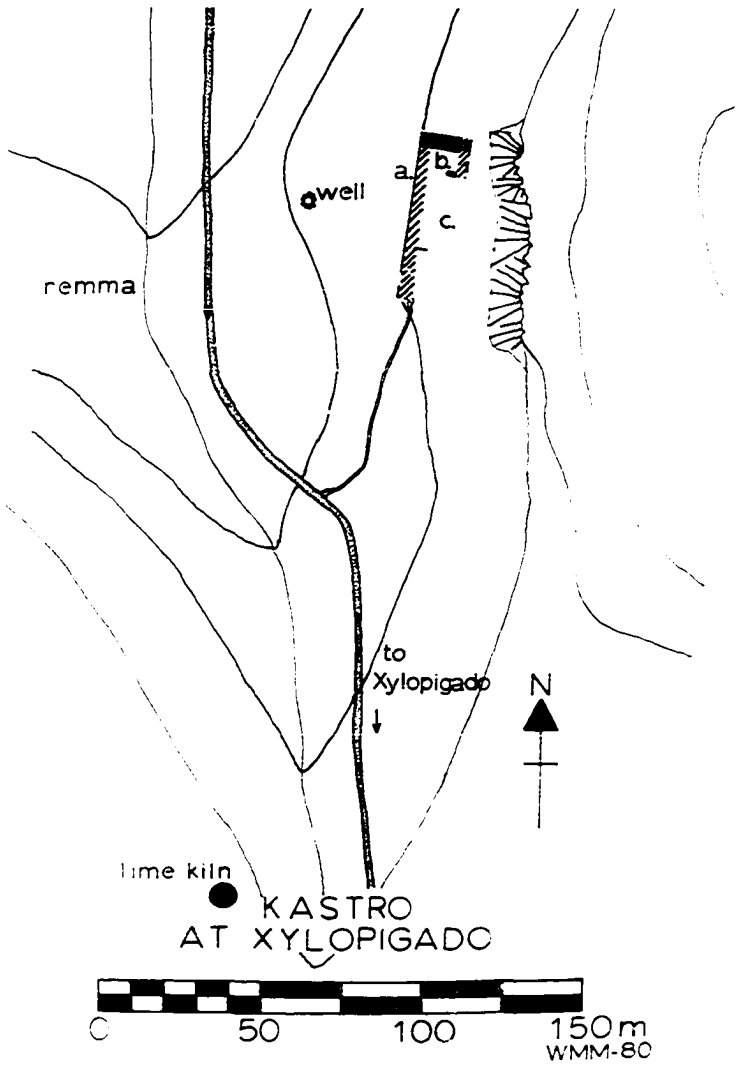

Fig. 25

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About 300 m from the plain of Xylopigadho on the eastern side of the pass between hills 298 and 339 is a small rectangular podium (Fig. 25, at 'c'). It is supported on the north by a free standing, double-faced wall and on the west by a single-faced retaining wall ('a'), both composed of large polygonal blocks. The western side is cut into the bedrock of the hillside and a few blocks at 'b' hint that there may have been a square tower at the north end of the podium.

The site is conspicuously free of any rooftile fragments, but I learned from the Katageis family which inhabits Xylopigadho that they had used the rooftiles which once littered the site to help build their oven. It therefore seems likely that a portion of the podium was roofed, and perhaps lends support to the view that the northern end was originally a roofed tower or blockhouse. The site was devoid of diagnostic pottery.

Given the placement of this kastro, it makes best sense as a garrison post along the route to Profitis Elias. The structure must never have been particularly imposing and may have served in peacetime as a deterrent to highway robbery, especially during those times of the year when the devout mounted the slopes of Profitis Elias with offerings for the unknown deity who was worshipped on top. In fact, a network of "police stations" may have secured this side of the peninsula. I was told by the Katageis family that another kastro exists 45 minutes by foot to the west of Xylopigadho somewhere on the slopes of Mt. Lamia. Unfortunately, I was not able to visit this fortress.

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I. The Harbor near Pogonia (Fig. 3, site 11; Figs. 26 and 27)

Useful Maps and Charts: 14; 17; 18; 20; 21,T.4

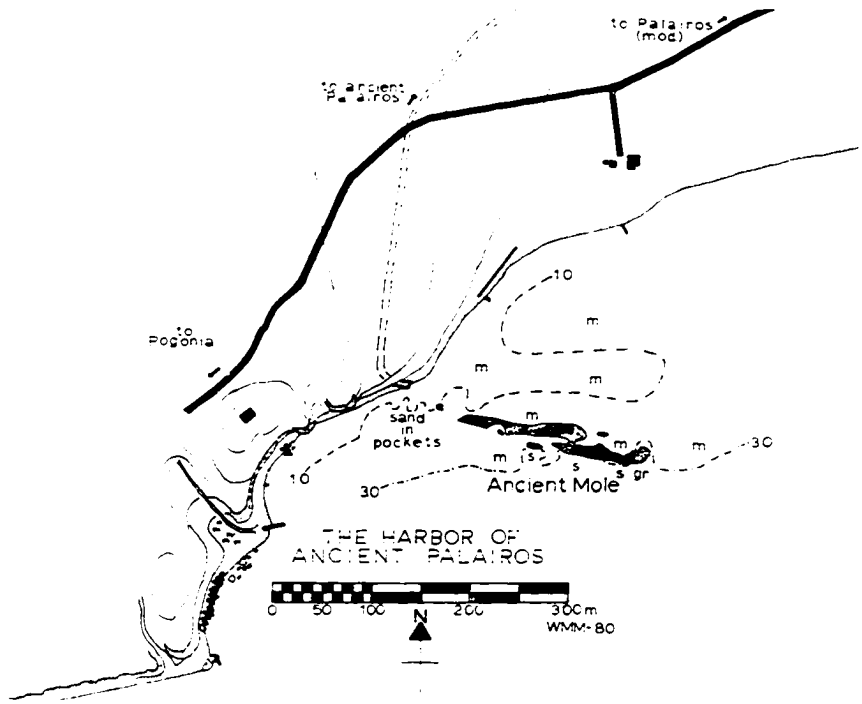

Fig. 26

Directly east of modern Pogonia, some 300 m northeast of the strand known as "Cleopatra Beach,"[57] is an ancient harbor mole partially obscured under mud and silt. The harbor site lies exactly where one would expect it—at the terminus of the ancient road leading south from the city, and in the most sheltered, northwestern portion of the wide bay of Palairos (Pl. 19.A).

The likely existence of a road was suggested by the discovery of numerous amphora fragments, most of them from 'Corinthian A' and 'B'

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vessels of the fourth to third centuries.[58] These pieces littered a field some 500 m north of the mole where a tomb with a sepulchral inscription was found.[59] The tomb is clearly later in date than the third century, so the pottery might best be interpreted as garbage thrown to the side of the road near which this particular tomb was constructed at a later date. In fact, what appears to be road metal cuts obliquely across the beach at the logical western end of the harbor mole (it appears on Fig. 26, directly above the legend "sand in pockets"), and just offshore are at least two large rectangular blocks embedded in the silt. A thorough cleaning here could reveal if these blocks are part of the road, or foundations of harbor buildings.

The harbor's placement here is largely determined by the topography and wind patterns of this embayment. Strong sea breezes are generated by the substantial plain running northward, and the southerly or southwesterly winds generated can climb to F 5 or more near the shore by mid-afternoon. I concluded that if Palairos had a harbor, its protective mole must have been constructed in an east-west direction to protect against the northward flow of the waves. I then located the most suitable site given these criteria and was in the water no longer than 15 minutes before locating the ancient breakwater.

The mole extends from the present shoreline in an east-southeasterly direction for a maximum distance of 270 m. The structure itself is obscured in many places by silt, yet a general picture of the harbor mole can be recovered. Judging from the nature of its construction, the distribution of the pottery found on it and the bathymetric levels of its surface, it can be divided into three different sections.[60]

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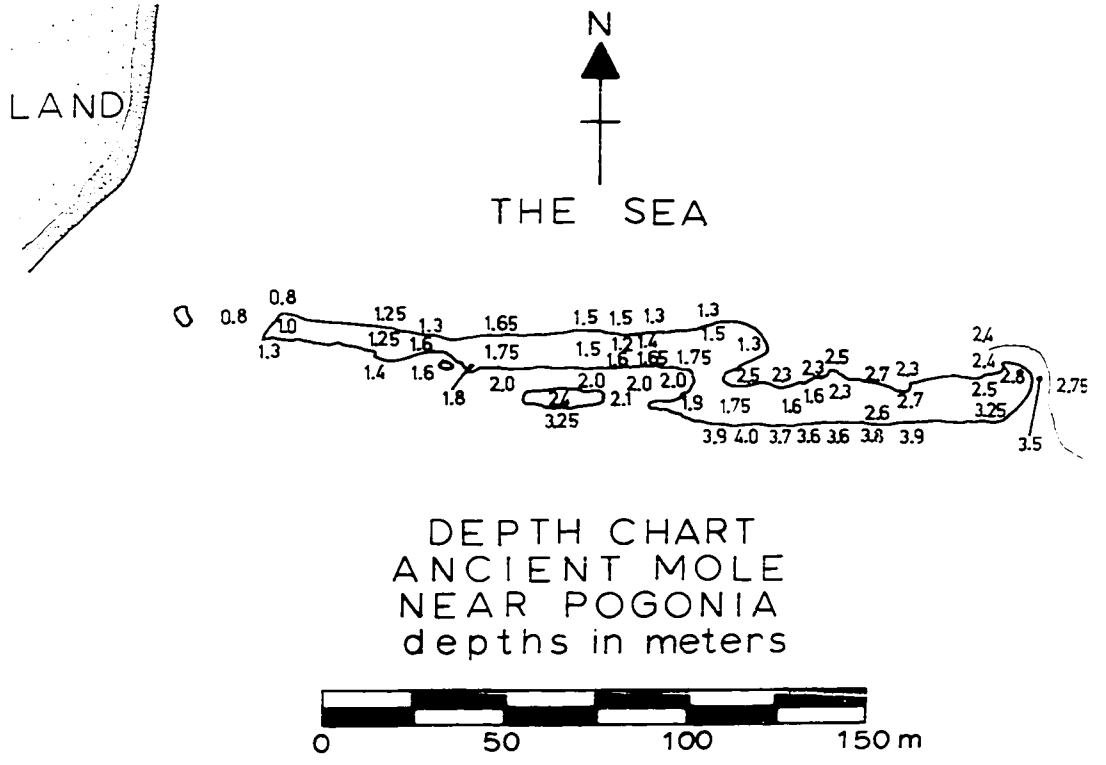

Fig. 27

The first section runs for about 170 m from the shoreline, is composed of small irregular boulders, contains very few sherds and slopes from sea level gradually down to a minimum general depth of 1.5-1.75 m (see the depth chart for this mole, Fig. 27). To the north and south of this section is a thick blanket of mud, which in places has been scoured away by the current to reveal small boulders. Perhaps the total width of the mole at section one is equal to the width of the area where sections one and two overlap. Due to the almost complete lack of sherds, the smaller, less heavy appearance of the stones utilized and the fact that 50% of this section is above the general level of the mole (i.e.,

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it is more shallow), section one probably served as the substructure of a solid road built at the water's edge, and perhaps even out into shallow water, to link the mole proper and its loading platform to the shore. It was probably leveled with packed earth and rock, and covered with paving slabs such as the ones which are still in situ in the mud bank just under water, adjacent to the road which apparently cuts across the beach.

Section two begins at the thickened middle area of the mole and extends eastward for about 50 m. Its general depth is 1.6-1.75 m and it rises 2.0-2.4 m above the ocean floor on its south face. It should also be noted that the mole's southern edge is piled up into a mound in this section--the difference in depth between the southern and northern margins of the mole's surface being about 0.75 m. This mounding makes perfect sense as the battered remains of a rough sea wall meant to limit the resultant water surge and spray from oncoming waves as they hit the seaward face of the mole. This technique is generally employed today throughout the world. The actual inner face of the mole is unobservable, concealed under a mantle of silt, yet a small patch of stones east of the widest part of the mole indicates that the mole's original width may have been at least 20 m. No paving slabs are visible anywhere on this section, yet to judge by the South Mole at Leukas, they may have been robbed away when the mole fell into disuse.[61]

The third section of the mole runs for about 45-50 m, and is distinguished by a diminishing of the mass of boulders which make it up, and the increase in its depth. The mole's surface abruptly drops from

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-1.6 m to -2.3 m, then continues gradually to -2.8 m. This section also contains amphora sherds, although the frequency is slightly less than in section two. This is clearly the eastern end of the mole, but whether or not the structure turns to the north, or is matched by another such mole running out from the shore is impossible to determine given the general covering of silt here.[62]

Due to the amount of silting it is impossible to determine the exact original size of this harbor. The mole has acted as a silt trap which has resulted in a mound of silt built up behind the mole (note the -1.0 m bathymetric contour indicated on Fig. 26). Most likely, this whole area was utilized and perhaps even dredged along the northern side of section one to increase the capacity of the anchorage for small, shallow-draft boats. Now however, it would take a systematic and expensive program of coring, or a sub-bottom profile made by high resolution, seismic reflection techniques, to recover the original pre-silted bottom contours.

The Use Period of the Harbor. As described above, most of the pottery found on this mole was recovered from section two. These pieces do not constitute chance finds. Some sherds were found wedged between rocks of the mole at a depth of 4 m, a level which was surely under water during the use period of this harbor (see below). A common practice the world over is the disposal of garbage into the water, especially the garbage which litters a dock surface. Thus, amphoras broken while loading or unloading ships get unceremoniously pitched overboard with a curse and come to rest in the cracks and crevices alongside the

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dock or mole. This process will continue for as long as the dock is used. Therefore, the pottery I found wedged in the crevices of this mole's face are important dating elements. They significantly form a homogeneous group (with two exceptions) dating to the late fourth and third centuries.[63]

This homogeneity in date was repeated by the group of amphora fragments I observed in the field some 500 m north of the mole which have been mentioned above. As I suggested previously, these sherds are probably roadside garbage, and probably come from vessels that were broken en-route to the city. Thus, they also probably date to the use period of the harbor.

It is possible that random selection has provided us mostly with late fourth century and early third century amphora fragments; it therefore would be hasty to adopt these dates without question as the full use period of this harbor mole. Yet, it is not faulty to conclude that this harbor was fully functional in the late fourth and third centuries. One example of possible second century date shows that the harbor may have continued in use past the end of the third century.[64]

An interesting passage of Xenophon's Hellenica allows us to advance this conclusion a bit further. Agesilaos' early fourth century invasion of Akarnania has already been cited to show that the major Akarnanian cities were walled at this time, but it also provides us with an interesting bit of economic information. Agesilaos was unable to bring the Akarnanians over to the Lakedaimonian alliance by force, so he ravaged their land, but withdrew his army in time to allow the Akarnanians to

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plant their grain for the spring harvest of the following year.[65] He returned early the following spring and the Akarnanians immediately capitulated. Xenophon describes why (Hell 4.7.1):

> οἱ δὲ αἰσθόμενοι, καὶ νομίσαντες διὰ τὸ ἐν μεσογείᾳ σφίσι τὰς πόλεις εἶναι ὁμοίως ἂν πολιορκεῖσθαι ὑπὸ τὸν σῖτον φθειρόντων ὥσπερ εἰ περιστρατοπεδευμένοι πολιορκοῖντο ἔπεμψαν πρέσβεις εἰς τὴν Λακεδαίμονα, καὶ εἰρήνην μὲν πρὸς τοὺς Ἀχαιούς, συμμαχίαν δὲ πρὸς τοὺς Λακεδαιμονίους ἐποιήσαντο.

The explanation, διὰ τὸ ἐν μεσογείᾳ σφίσι τὰς πόλεις εἶναι, is partly figurative. No one could arge that Astakos, Alyzeia or Palairos were physically inland cities; Xenophon is making an economic, not a physical observation. Apparently, no adequate commercial network existed in Akarnania (such as existed in Athens who survived for years when cut off from her fields during the Peloponnesian War) which was able to import enough grain to offset the loss of a year's harvest. The Akarnanians had a simple economy based on what the land could produce. This is a very important fact, for it implies that until the early fourth century, the economy of Akarnania was largely self-sufficient, there being no need for even a modest importation of goods basic for survival. This of course says nothing about some small scale trade in luxury items.

The poleis of this coast never engaged in large scale trade because the Akarnanian economy produced little of marketable value over and above that which was consumed at home. I have argued elsewhere that this picture changed during the middle decades of the fourth century and that Akarnania's economy experienced a boom in the latter half of the century.[66] This was certainly true for Palairos who developed a suf-

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ficient capability for small to moderate scale trade to allow her to negotiate a grain deal with Kyrene in the 320's to offset the effects of drought.[67] It is, therefore, not surprising that the pottery from the mole near Pogonia dates at the earliest to the late fourth century. On this evidence, the mole was most likely constructed sometime between the 380's and the 330's.

It is certainly impossible to make any definite statement concerning the nature of Palairos' late fourth/early third century trade from the few sherds recorded in the Catalogue of Pottery, yet the dominant presence of Korinthian examples is interesting. The possibility exists that all the examples come from two or three cargoes, but the likelihood is greater that we have evidence of a general, long term importation of Korinthian wine and/or oil.

The total life span of the harbor near Pogonia is unknown, yet any harbor placed in such a way as to offer a cul-de-sac to silt or sand laden water is going to silt up eventually. The mud bank behind the harbor mole shows that this is exactly what did happen. But whether the city outlived the mole, or the mole the city, is impossible to tell without a full recovery of pottery from the mole itself.

Evidence for Change in Sea Level. Unlike at Oiniadai or in Mytikas Bay, we possess in the mole near Pogonia a dated structure; we know it was fully functional in the late fourth and third centuries. Still, two problems face any interpretation of the data provided by the mole. One, we do not possess an in situ paved surface, and two, we must determine how high above the water a modest city mole of the late fourth cen-

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tury was likely to stand.

Even though we do not possess a paved in situ surface as we do in Mytikas Bay and at Leukas, we do have the recurring depths of 1.6-1.75 m throughout the eastern half of section one and the full extent of section two. If we assume the top paved level has been robbed away, the restored depth of the mole's surface might be as shallow as 0.75 m.[68] This value is clearly impossible when it is realized that the mole at Leukas (which was also functional during the fourth and third centuries) has an average depth more than a meter lower than this. Thus, an allowance for a robbed out paving course as thick as the ones at Leukas does not seem reasonable.[69] Actually, the recurring depth of 1.6-1.75 m seems perfectly reasonable as the original level of this mole, although the restoration of a thin paved surface (about 0.25 m thick) would also be acceptable. The resultant minimum depth of the restored surface could thus be about 1.35-1.5 m which compares favorably to the depths measured at the submerged dock in Mytikas Bay (see depth chart, Fig. 17).

The next problem is to assign a reasonable height to this mole. I have measured the heights of many docks in the (largely) tideless Caribbean and Mediterranean and found that the height varies from 0.5 m to 2.0+ m depending on the dock's exposure and the draft of the vessels the dock is designed to serve.[70] N. Fleming's conclusion that if there is over 1 m of water beside the quay, the quay itself will stand at least 1 m above sea level generally holds true and will be utilized in my calculations.[71]

We concluded above that the minimum restored depth of the mole's

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paved surface would be approximately 1.35 m. The minimum original height it stood above the water in the fourth century would be 1.0 m. Thus, we arrive at a 2.35 m minimum value for rise in sea level since the late fourth century (1.35 + 1.0). Since the dock may have stood up to 2.0 m out of the water (though this is unlikely) and the original surface might never have been paved (giving us a 1.6 m average depth), the reasonable maximum value indicated is a rise of 3.6 m (1.6 + 2.0). The resultant average of these two values gives us 3.0 ± 0.6 m as the sea level change indicated by this mole.

J. Palairos to Leukas: Topographical Remarks (Cf. Fig. 18)

Useful Maps and Charts: 14; 17; 18; 20; 21,T.4

As between the other coastal sites of this coast, the easiest, least strenuous route to Leukas is by sea from the head of Palairos Bay. The distance measures 9 nm from harbor mole to harbor mole and could have been rowed in a little over one hour by a fast trireme if conditions were favorable. A merchant ship under sail would have had to employ the same techniques mentioned in conjunction with leaving Astakos Bay (see pp. 76-77). The pre-dawn katabatic winds would have been utilized to sail south-southwest out of Palairos Bay. Once far enough to the south, the boat would have awaited the onset of the sea breeze which would then carry it easily to Leukas. One could not expect to reach Leukas however, much before noon, unless a coasting vessel with oars was utilized.

The sea route circumvents the so-called Plagia Peninsula, a mountainous hinterland which hinders easy communication between the two

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cities. This peninsula is traversed by a number of paths, but even today, only a few are suitable for wheeled traffic (i.e., tractors). The main routes traversing this territory are the same as those mentioned by Lolling in the 1870's; his words, therefore, are worth quoting. Coming from Aktion toward Plagia (the village which has given its name to the entire area) he began to climb up into the mountains north of modern day Agios Nikolaos. He writes:

> Auf einen ziemlich guten Bergweg gelangt man zu einigen Tannen. in einer Gegend die nach einer früheren Kapelle Hag. Elias genannt wird. Bei den Tannen steigt ein wildzerklüfteter Felsen auf (1 Stunde); dann gelangt man über niedrige Anhöhen an den Berg, an dessen breiten Abhang auf halben Höhe das Dorf Plagia (wörtlich die Abhänge) liegt. Dort wo man den Weg betritt, der sich dann westlich in der Richtung nach Leukas hinzieht, liegt ein Kreuzweg (στοὺς σταυροὺς, 25 Min.). Wendet man sich von diesem zur Linken, so gelangt man in 40 Min. zu dem Dörfchen Kechropula, wendet man sich dagegen zur Rechten in 45 Min. zum grossen Dorfe Plagia.[72]

Today, one route runs in a line from Agios Nikolaos through Xylopigadho to Stavros,[73] and from there, via Old Plagia to New Plagia. The other route runs from Peratia to Stavros and on to Kechropoula via one branch, or to Stenon via the other.[74] It takes a total of about two and one-half to three hours to go from Kechropoula to Peratia on foot. In antiquity, one crossed from here to Leukas via a natural isthmus, and at least as early as the time of Strabo, via a bridge.

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Notes to Chapter VII

[1] The bedrock has been cut down and leveled here; this could have facilitated the placement of a rough door, a threshold plank or simply a foundation block for the wall.

[2] I make this statement, not with reference to the well attested change in Attic black glaze, but from glazed examples of datable sherds from nearby sites--Kastri Lithies, Sterna, Kechropoula and Kotoupa.

[3] Cf. p. 149.

[4] Cf. Appendix D, pp. 454-57.

[5] This fortress received a paragraph-long notice in the Chronika of Deltion 29 (1973-74) 539; a comparison of Ph. Zapheiropoulos' observations with my own show that I disagree with her on two points. The overall dimensions of the fortress are difficult to measure, but I am certain that the ones I present are more accurate than the 20.90 m X 13.20 m which appear in the Chronika. It is also stated that an entrance probably existed in the western wall; an entrance could be restored only in the north or east wall of the fort if my plan is correct.

[6] See Appendix B, nos. 6-11.

[7] See pp. 103-104.

[8] For this period of Akarnanian history, see pp. 326 ff.

[9] Heuzey (1860 : 379); in his day, Pirgos was called Kakavoula, and Kastri, Xylokastro.

[10] Heuzey (1860 : 378, 396). Heuzey supposed, in accordance with his belief that a landing existed at the head of the bay's eastern side, that Cicero landed here in 50 B.C. (cf. Fam. 16.5) on his way to visit a friend at Thyrreion. I found no physical evidence of such a landing which, being in an exposed portion of the bay, should have had some sort of protective mole. Furthermore, the timetable of Cicero's voyage as revealed by his letters (esp. Fam. 16.3-7) makes it impossible for Cicero's visit to Thyrreion to date to 50 B.C. Shackleton Baily (1977 : 225 and 464) has correctly observed that the opening of the letter to Tiro mentioning this trip implies that Tiro and Xenomenes had met before (Fam. 16.5.1: Vide quanta sit in te suavitas. duas horas Thyrrei fuimus: Xenomenes hospes tam te diligit quasi vixerit tecum.) The trip to Thyrreion must date to the outward voyage in 51 B.C. after Cicero et al. had disembarked at Aktion (cf. Att. 5.9.1). Cicero, therefore, saw Xenomenes at Leukas this second time they met.

[11] See Camp (1977 : 277-81).

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[12] Cf. n. 72, p. 130.

[13] When a large well was being dug in 1979, about 0.5 km northeast of the harbor mole near Pogonia, I was informed by a friend that a tomb had been found. All grave goods (if there were any) were gone by the time I was taken to the site, but I was able to record a small funerary inscription which the bulldozer had turned up (see Appendix C, no. 6). It is possible that tombs lined parts of the road all the way to the harbor. For an account of the cemetery immediately outside the city walls, see Heuzey (1860 : 395).

[14] When it was realized that inscriptions were being removed from the site clandestinely, the remaining ones were collected from the area and taken to the Nomos museum at Agios Vasilios. Inscriptions which could not easily be removed were left at the site.

[15] Such grave terraces also exist in the cemetery to the north of gate 6; see pp. 151-52. For an extremely well published example of this type of grave terrace at Anaktorion dating to the third century, see Dakaris (1955 : 16-22 and esp. εἰκ. 8, p. 20).

[16] For the north cemetery (Fig. 22, at 'B'), see pp. 151-52. Within some terraced plots, almost intact Korinthian pan tiles can be seen in the earth. At Alyzeia, one of my hosts showed me an intact tile he had removed from a grave on his property; it measured 0.62 m X 0.685 m. Two such tiles were placed along the sides of the body, one each at its head and feet, and two were laid horizontally as a cover to the box thus created. My host had recovered a few coarseware vessels (which he threw away), some bronze coins and a bronze finger ring. The coins were sold in Athens; I did not see them.

[17] Since there is no circuit wall from the southern end of the proteichisma to gate 2, we must assume that these irregularly placed terrace walls (which are quite massive) were regarded as an adequate defense of the terrain. Defenders placed here would have had a distinct advantage over attackers trying to force their way into this sector from the slopes beneath.

[18] See Appendix B, nos. 12-15.

[19] There are two circular slabs of limestone with rough semi-circular grooves cut into their surfaces lying in the city side of the gate opening. They perhaps once served as the supports for a double-leaved gate which closed off the inner end of the dog-leg.

[20] Camp (1977 : 279) believes this "hemicycle" may have been the foundation of a curved exedra. This is possible, yet unlikely considering the lack of evidence for a water channel or drain which should still be visible. If we assume that the two honorific inscriptions found on this terrace originally stood here, this curved foundation may make more

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sense as a dedication base, perhaps for statues.

[21] Heuzey (1860 : 395) reports that he saw an inscription "en grands caractères plutôt négligés qu' archaiques: 'Αθάνας, Διός.'" He presents a facsimile of the text on p. 491 (no. 72); see also IG IX 1^2, 570.

[22] This must be the spring mentioned by Kirsten (1943 : 2458). I have observed this source gushing water in January, and according to the local shepherds, it continues gushing through the spring season. It only trickles, however, in the late summer and autumn. Although it is located directly below some house foundations outside gate 3, no spring-house or basin was ever built to catch its waters. At one time, the spring may have flowed higher up this slope, nearer to gate 3 or 4, or from the terrace near gate 2 if we accept the existence of an exedra here. Water flowing through a limestone matrix constantly seeks lower levels because the fissures through which it flows widen, deepen and join with lower cracks. It is a natural result of the leaching action of groundwater. For a brief description of this process, see Great Britain (1944 : I,12).

[23] Others have seen a further distinction--a "Kyklopaische Mauer" which Kirsten believes originally served as a retaining wall which was later incorporated into the gate area; it now serves principally as the foundation for the polygonal wall between gates 3 and 4. Although Benton (1932 : 329 f.) reports finding a sherd from a Mykenaian stirrup jar here, Kirsten (1941 : 105-106 and n. 2) rightly objects to her dating this wall to the Mykenaian period solely on the grounds of this one sherd of dubious origin (see text p. 245 and n. 48) and her opinion that the wall's masonry displayed a "Mycenaean style."

[24] When total course heights of a wall are given in this study, they are counted vertically from the wall's foundation to its topmost course. By slanting uphill slightly, Kirsten records the preserved height of this wall as 26 courses; see Kirsten (1943 : 2460).

[25] My measurements differ slightly from those of Noack (1897 : 81).

[26] Cf. Lawrence (1979 : 389) who concludes that the collapse of the upper stories of towers "seems to imply that a great proportion of each face was occupied by windows ...." Note too that the position of this tower accords with Lawrence's general observations on artillery bastions and large towers (1979 : 389-90). The measurements of this tower are as follows: west face = 11.6 m; south face = 10.5 m; north face = 14.3 m (to jog); the inner face (restored) = 11.6 m.

[27] Kirsten's view that the varying masonry styles utilized in this circuit were chosen because of their suitability for the terrain on which the wall was constructed may be valid in certain instances, but it seems a bit contrived to explain this little polygonal patch in tower

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'C' by this theory (for this theory, see n. 28). There is no difference in the terrain under this polygonal section compared to that under the rest of the tower. The drafted corner on the bastion's north face represents one phase, and the bastion itself represents another phase; the polygonal section might be interpreted as a later repair to the substructure of the bastion.

[28] Kirsten (1943 : 2460-62) does note the existence of walls with faces in two different styles at Palairos, yet offers no explanation. He admits that on this evidence the polygonal and trapezoidal styles can be contemporary at this site, yet in his discussion of the polygonal style of the eastern proteichisma (col. 2462), he is still bothered by the fact that this wall should be earlier than the enceinte to judge by its masonry style. He concludes that the sylistic differences at Palairos must arise from the type of terrain the walls were required to traverse (col. 2462): "Der Wechsel des Technik ist also vom Gelände abhängig." This theory is difficult to substantiate and is not supported by evidence from other sites along the Akarnanian coast. There is no significant difference between the terrain traversed by the western, horizontally coursed wall and that traversed by the eastern proteichisma. As mentioned in n. 27, the bedrock beneath the polygonal patch in tower 'C' is exactly the same as that beneath the rest of the tower and the western wall it abuts. Nor does this theory account for the different styles of a single wall's two faces. As a general rule, it is beset with exceptions. According to Kirsten, polygonal blocks were utilized on steep slopes to provide a better bonded wall. Yet the western wall of Alyzeia's circuit exhibits a polygonal socle which runs over perfectly flat terrain (see Pl. 13.F). Exceptions can be found to any general rule, but when they occur as often as examples which follow the rule, the precept should be reconsidered. Such is the case with Kirsten's theory to explain the various masonry styles at Palairos. See further Appendix D.

[29] Boyd (1978 : 91-93).

[30] Since this arch may have been designed by the same architect before or after Philip's campaign of 219, we can say no more about its date than this: If the architect was a young to middle aged man in 219, he could have built this gate as late as the 190's in defense against the Romans. If he was an old man in 219, he could have built the arch at Palairos first, some 40-50 years earlier.

[31] See pp. 157 ff.

[32] For the Alexippa base, see IG IX 1^2, 454; for the statuettes, see Preuner (1902 : 332); and for the sanctuary in general, see Kirsten (1943 : 2465). Rhomaios (see n. 35) reports that a seated statue of Artemis was taken from here and conveyed to the National Museum; his reference [AA (1897) 82] however, does not corroborate his statement. Perhaps he meant to cite Preuner (1902 : 332) instead who reports:

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"einige statuarische Fragmente sind in das atenische Nationalmuseum gelangt (s. Ἐφημερὶς τῆς Κυβερνήσεω 28. Ἰουνίου 1900). Es sind, wie ich freundlicher Mitteilung H. von Protts und R. Zahns entnehme, ausser einigen Bruchstücken drei Statuetten: eine nach links schreitende Artemis; eine stehende, langgewandete Frau, mit Fackel in der Linken, kopflos; eine ähnliche Frau, ohne Attribut, kopflos." On these fragments, cf. also Kirsten (1942 : 2457, lines 33-37).

[33] Rhomaios (1916 : 49). The inscription is IG IX 1^2, 452.

[34] Klaffenbach (IG IX 1^2, 451) accepts the interpretation that this inscription is a "catalogus sacrificorum."

[35] Rhomaios (1916 : 49).

[36] The exterior face of the wall here has an ornate device; the ninth course of stone is composed of blocks equal in height to two courses, an embellishment no other gate receives.

[37] Appendix C.

[38] See Appendix C, nos. 3-4 and IG IX 1^2, 458-569.

[39] For the two early inscriptions, see IG IX 1^2, 458 and 459. Out of the 104 sepulchral inscriptions for which Klaffenbach offers dates, two are from the sixth century, three from the fourth century, three from either the late fourth century or early third century, 80 from the third century, 11 from either the late third or early second century, four from the second century and one either from the late second or early first century.

[40] Noack (1916 : 221-22); this theory is also reported in Kirsten (1943 : 2463) with Kirsten's objections immediately following the presentation of Noack's theory.

[41] Kirsten (1943 : 2463-64).

[42] See n. 28.

[43] See pp. 112-113.

[44] See Appendix D.

[45] See pp. 138 ff. for Pirgos on the Sklavaina Road (late fourth-third centuries), pp. 206-08 for Pirgos on Kotoupa (mid-fourth-third centuries), pp. 208-11 for Kokkino Stephani on Trikorpho, pp. 211-17 for Sterna, and for a brief evaluation of this network of communication posts, pp. 217-18.

[46] See p. 149 and n. 30.

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[47] For this argument, see Kirsten (1943 : 2465).

[48] See pp. 211 ff.; cf. also Lawrence (1979 : 147) who admits the possibility of a wall with regularly spaced towers to be as early as the fifth century at the site of Epidauros Limera.

[49] Noack (1916 : 222 n. 1).

[50] Kirsten (1943 : 2465).

[51] See n. 50.

[52] The total number of flutes is roughly equal to $\frac{2\pi r}{0.135}$ which is approximately 17.9; because of its position in the wall, roughly one-quarter of the flutes could not be seen.

[53] The temple of Zeus' stylobate measures 27.68 m X 64.12 m (for the source of these figures, see n. 54); using these proportions, we arrive at the formula: $\frac{25}{27.68} = \frac{x}{64.12}$; x = 57.9.

[54] The height of the tallest columns of the temple of Zeus at Olympia are 4.72 times their lower diameters. We may not possess the lower diameters of the columns at 'd,' but even so, the diameter measured will give us a general idea of the column's original height. Thus, the general restored height on the Olympian model is 4.72 X 0.77, that is, 3.63 m. My figures for the temple of Zeus at Olympia for this n. and n. 53 come from Dinsmoor (1975 : 338 and the Chronological List of Greek Temples between pp. 340 and 341).

[55] Actually, some of the blocks are almost pie-shaped; for the flat-dressed surface, cf. Appendix D, p. 456 and n. 18.

[56] See n. 14, p. 64.

[57] "Cleopatra Beach" is the commercial name of a complex of bungalows situated atop the bluff in the lower left of Fig. 26. The gravel beach below is called by this name as well.

[58] See Appendix B, nos. 20-23.

[59] See n. 13 and Appendix C, no. 6.

[60] My assessment of pottery fragments exposed to the moving action of waves might be questionable were it not for the almost complete lack of pottery in section one. The few sherds which were found in this section were never cemented to the bottom while most of those recovered from section two had to be gently cracked free or pulled from the crevices of the stones they had fallen between. The section two sherds had obviously not moved for some time, while those from section one were of

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dubious origin.

[61] Cf. pp. 239-40.

[62] It should be noted that an additional mole would be absolutely necessary only during the winter when the eastern wind frequencies rise considerably (see Appendix A, Table 6). It would be surprising to find the existence of such an extensive harbor here since Palairos is not generally known to have engaged in extensive trading activities. Any ships that citizens of Palairos possessed could easily have been put up for the winter at Leukas.

[63] See Appendix B, nos. 16-19. As a general rule, I never removed a fragment from the mole if I had to damage it badly to free it from a concretion. And without exception, I returned all pieces to their general find spots after they had been sketched and photographed.

[64] Appendix B, no. 18.

[65] Xen. Hell. 4.6.13.

[66] Cf. Appendix F, pp. 467-69 and 482-83.

[67] Cf. Tod 196 = SEG IX, 2. It is interesting that Leukas is also recorded as an importer of grain from Kyrene. Both shipments may have been transported in Leukadian bottoms. Cf. also p. 313.

[68] The thickness of the first course of the paved surface at Leukas is about 0.85 m (see p. 240). If we take the general average depth of the middle stretch of the mole (about 1.6 m) and add a course of 0.85 m thickness, the resulting depth is 0.75 m.

[69] In situ paving slabs on the Leukas mole indicate a -1.89 ± 0.3 m level for the fifth century (see p. 240).

[70] This agrees with Fleming's maximum and minimum of 2.0 m and 0.2 m; cf. Fleming (1969 : 8-9). But note that Fleming overlooks the importance of the size of the vessels being serviced.

[71] See n. 70. General exceptions to Fleming's rule are dinghy docks which can occur where the water is over a meter deep and still stand very low to the water. I have found that true dinghy docks average about 0.5 m in height. For this reason, such docks are generally constructed in very protected places and are thus not an issue here or at Leukas.

[72] Lolling, Urbaedeker, CLXXXIII.

[73] There is absolutely nothing at Stavros except an intersection. At one time when the population was more scattered over the country-

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side, some remmas, and most bays, upland plains and mountain peaks received names. Today, these places are uninhabited but the names still exist. This has resulted in some confusion concerning the exact placement of the ancient remains. The names are very localized and I found that at the end of my last fieldtrip I knew more about the antiquities of the Plagia Peninsula than any of my several local sources. My information has come from more than six different people, only two of whom knew more than one or two sites. I express here my gratitude for the kind help I received from Iannis Palaioiannis, Vasilis Verykios, Demosthenes Vlachos, Theodoros Katageis, Zois Mangos (and his wife), Mr. Labros (the police officer), and the two shepherds who directed me to Phagia and Kotoupa.

[74] These are "routes" (i.e., paths) and are not the same as "roads." The one tractor road (ἀγροτικὴ ὁδός) used to cross the peninsula runs from New Plagia to Old Plagia and from there to Stavros and then on to Stenon.

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CHAPTER VIII

The Plagia Peninsula (Cf. Fig. 18)

Useful Maps and Charts: 17; 20; 21,T.4

The land of the Plagia Peninsula is largely uninhabited; in places it is rough and rocky, and in others, forested and grassy. 90% of this hinterland has not yet been opened to vehicular traffic and as a result, the serenity and peaceful charm of the region has remained completely intact. Here and there the inhabitants grow cotton or tobacco, but in general, this hill land is given over to wandering herds of goats. Only along the narrow coastal strip adjacent to the Laukas Canal and part-way up the few valleys running inland is the soil suitable for serious cultivation.

Although today this area is serenely peaceful, the existence of ancient watchtowers and garrison posts on the mountain peaks, and walled towns and refuge forts in the lowlands attest periods of anxiety and violence. I shall first describe the lowland towns and fortresses of the coast opposite the island of Leukas (the Leukadian peraia) working from north to south, and then proceed to a discussion of the hill forts atop the peaks of the hinterland.

A. Peratia (Fig. 3, site 20; cf. Fig. 18)

Useful Maps and Charts: 15 (called Anemas); 17 (Anemas); 20; 21,T.4; Dörpfeld (1927 : II, Tafeln 6 and 20)

Heretofore unreported are the very poorly preserved remains of a

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walled community currently beneath the village of Peratia. The remains were shown to me by Demosthenes Vlachos (an inhabitant of Peratia) who pointed out short stretches of a polygonal circuit wall along the hill on which sits the town's major church, Agios Iannis (not Agios Georgios as is recorded in the survey of v. Marées included by Dörpfeld). This wall has been largely robbed out by the locals; Demosthenes himself told me he had helped destroy some stretches near the church. Even though the wall has not been completely destroyed, I believe it would be almost impossible to recover its exact original line. Spotty traces of it can be seen leading southward from the church along the top of the ridge which overlooks the canal and the road to New Plagia (hereafter referred to only as Plagia).

Here and there within the circuit are the partial remains of building foundations, but the modern village has covered up or destroyed most of the evidence. Next to the old millhouse I was shown a largely intact limestone sarcophagus with thin walls which had been used as a beehive in years past and was told that many other sarcophagi had seen use locally as storage containers for cheese and olive oil. That there are still ancient graves in the area was proved by my discovery of a third century grave stele 1 km up the valley near the chapel of Agia Sophia (Fig. 34, at 'B').[1] I searched the adjacent fields, but found no other examples. Since the lettering of this stele was still quite sharp, it had apparently been discarded recently after a tomb had been robbed; other graves may yet remain to be found.

I can offer no finds from the site of the community to clarify its

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date, but will defer judgement on its identification until the remains near Plagia have been discussed.

B. Kastro at Agios Georgios: Nerikos? (Fig. 3, near site 21; Fig. 36)

Useful Maps and Charts: 15 (Fort Ay. Yeoryiou); 17 (where the name "Nisis Volios" is written); 20; 21,T.4 (Kastron Enetikon Frourion); Dörpfeld (1927 : II, Tafeln 6 and 20, called Neu Nerikos; I,270 Abb. 30)

When I was engaged in mapping the South Mole at Leukas, I noted the existence of numerous sherds and poorly preserved foundations westward, down the hill from the Venetian/Turkish fortress of Agios Georgios. All of the sherds except one were coarseware fragments which were so badly weathered that they were completely undiagnostic. One fragment had retained some of its black glaze which was of good quality and slightly metallic. I also found a fragment of a large, thick Lakonian pan tile (0.07 m thick). The foundations themselves were so fragmented and spare that I decided it would be pointless to try to map them.

In the first years of this century, this site was observed by W. Dörpfeld who undertook to determine the extent of the remains here. He excavated portions of a circuit wall, discovered its overall extent and produced a plan. Dörpfeld returned in 1926 and writes that only "hie und da" could he make out parts of the wall with its towers.[2] When I visited this site in 1980, 54 years later, the line of the wall was largely undetectable. Presumably parts of it still exist under a covering of soil and dense vegetation.

According to Dörpfeld's report, the circuit was built in a polygonal style with blocks quarried from the site. The wall is similar to

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other city walls we have seen, 2.6-3.0 m thick, built with two distinct faces, the interior being filled with rubble. The towers extended out from the face of the wall 2.5-3.0 m and had a width of about 8 m.

I see no reason to doubt the accuracy of Dörpfeld's plan and would only add the observation that there seemed to be evidence of a road running up the hillside in a zig-zag course from the lower gate. It presumably led up from the harbor mole. At some points where the road changes its course, a line of stones is laid across its surface from side to side, thus producing a step. These "steps" and the fact that the road's margins are lined with blocks here and there give spotty evidence of its course up the hill. An aerial photograph of the hillside might help to bring out a lot more of these currently invisible patterns of stones.

Nerikos and the Ruins at Agios Georgios. A certain degree of confusion surrounds the identification of ancient Nerikos (also Neritos) and this is understandable since some confusion seems also to have existed in antiquity. Our basic evidence is as follows:

1. Odyssey 24.377: Nerikos is mentioned as an εὐκτίμενον πτολίεθρον on the ὁμὴ ἠπείροιο, which by general ancient consensus meant Leukas.[3] We must not press this identification (or any vague Homeric reference) too vigorously. In Odyssey 13.351 a Neritos is mentioned as a mountain on Ithaka. The name is certainly to be associated with this general area, but the identification of a Classical/Hellenistic site based on this alone as evidence (i.e., Od. 24.377) would be rash.

2. Thuc. 3.7.4: Nerikos is a fortified (?) position south of the city

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of Leukas; the sequence of Thucydides' statements might seem to imply Nerikos' location on the island, yet he does not necessarily say this:

> ὡς δ' οὐ προσεχώρουν [Oiniadai], τὸν μὲν πεζὸν ἀφίησιν, αὐτὸς δὲ [Asopios, the son of Phormio] πλεύσας ἐς Λευκάδα καὶ ἀπόβασιν ἐς Νήρικον ποιησάμενος ἀναχωρῶν διαφθείρεται αὐτός τε καὶ τῆς στρατιᾶς τι μέρος ὑπὸ τῶν αὐτόθεν τε ξυμβοηθησάντων καὶ φρουρῶν τινῶν ὀλιγῶν.

Thucydides' words πλεύσας ἐς Λευκάδα καὶ ἀπόβασιν ἐς Νήρικον ποιησάμενος technically could mean two things. In such a context, ἐς Λευκάδα could mean "to the city," i.e., to Port Dhrepano outside the South Mole. The phrase could also be taken in a more general sense to mean "to the island of Leukas."[4] Nerikos could not easily be placed north of the isthmus because we know 1) the canal through this isthmus was not navigable[5] and 2) the place had to be far enough from the city for Asopios to hope that his small force from 12 ships would be sufficient to take it. The implication is that Nerikos is on Leukas, but the passage would not be injured if Nerikos were to be located on the mainland at Agios Georgios. The sense would be similar to: "he sailed to New York City, putting ashore at Long Island," with New York City being a term which could mean the city proper or the wider metropolitan area. We are doing no violence to the text in seeing this fortress as one built to protect the mainland side of Leukas' harbor mole as part of Leukas, the polis.

3. Strabo 10.2.8 (cf. also 1.3.18): "The Korinthians transferred Neritos to the place which, though once an isthmus, is now a strait spanned by a bridge, and they changed its name to Leukas ...." Apparently Neritos was an older settlement which was transferred to the new city site

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of the colonists and henceforth called Leukas. Where this original settlement was located is not stated.

4. Pliny HN 4.5: Neritum and Neritis are old names for Leukas and Leukadia--the city and the island.

5. Steph. Byz. s.v. Νήριτος: The polis is located in Akarnania.

Our evidence is neither straight-forward nor unanimous. Most scholars would place Nerikos on the island, somewhere on the coast, south of the ancient city site of Leukas.[6] Dörpfeld however, identifies the fortified settlement at Agios Georgios with the Nerikos referred to by Thucydides; the Homeric site he places at Kechropoula.[7] All considerations of Homeric topography aside, the placement of the fifth century Nerikos at Agios Georgios makes good sense. Asopios had been sent out as the son of Phormio because the Akarnanians had requested that either a son or a relative be sent. Now that the young man's father was dead, his own political future rested on his keeping alive the personal ties of obligation his father had built up in this part of the Greek world.

He failed at Oiniadai; had he taken this polis and turned it over to the other Akarnanians, he would have successfully assumed the role of patron his father had earned. Desperate to achieve some success for the Akarnanians who had sent for him, he tried a lightening raid on the Leukadian peraia, an area which was the root of the dispute between Leukas and Akarnania.[8] Sollion had been taken from the Leukadian camp a few years years before and turned over to Palairos;[9] if he could surprise the garrison at Nerikos, he would be able to hand it over magnanimously to the Akarnanians too, and effect what he had failed to

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achieve at Oiniadai. Speed was of the utmost importance, so he dismissed the army at Oiniadai and dashed north with his triremes. If he had succeeded, it would have been an exploit to match those of his father. Instead of a rash incompetent, Asopios would thus appear as a man desperately trying to live up to his father's name and at the same time secure his own influence among the Akarnanians, both important factors in his own career. Without this Akarnanian connection, the reasons behind Asopios' attack are less clear. This argument is not intended to be conclusive; it only aims to establish the possibility of another interpretation of Thucydides' account.

That Strabo and Pliny identify Neritos with the city itself implies two things: 1) that Neritos (or Nerikos) was originally somewhere near the city, and 2) that a separate entitiy called Neritos did not exist in the first century B.C. Stephanos of Byzantion's statement that the site was in Akarnania fits perfectly with Dörpfeld's walled community at Agios Georgios. The site's physical closeness and political connection with the polis of Leukas, plus the fact that it seems to have been uninhabited by the first century, have given rise to the confusion in our sources. We still cannot confidently identify the site of fifth century Nerikos, but the remains at Agios Georgios offer us a reasonably good candidate.

C. Dioryktos and Perdioricto (Cf. Fig. 34)

The problem concerning Dioryktos is altogether different from that concerning Nerikos. In the case of Nerikos, it was clear that we were

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dealing with a town's name. But since Dioryktos can simply mean "canal," our problem lies in determining what the testimonia concerning dioryktos refer to. There exists the strong possibility that Dioryktos was also a community along the canal.

It is clear that Ps.-Skylax (34) and Polybios (5.5.12) are simply referring to the canal proper when they use the word. And Pliny (HN 4.1.5) uses dioryktos to denote the whole area of shallows between the island and the mainland.[10] Dionysios of Halikarnassos (Ant. Rom. 1.50) however, could possibly be referring to a community built in the area Pliny describes.[11] That there was a community here alongside the canal we have already seen in the remains at Peratia. Furthermore, Peratia's position accords well with the statements of Dionysios and Pliny. There is also one last bit of evidence which might argue for the identification of a place named after the canal. On the fourth century A.C. Tabula Peutingeriana there appears the name "Perdioricto" and although K. Miller identifies this as "der Kanal (Διόρυκτος: Polyb., Pliny), der die Insel Leucas vom Festlands schied,"[12] there is no reason why Perdioricto could not refer just as well to the site of a community settled near the mainland end of the so-called isthmus. Such a point would not be worth stressing were it not for the remains at Peratia. After the bridge was constructed, the name of the town eventually reflected this development. The name would be of a similar type as "Oxford," "Cambridge," or "Ironbridge," and the American "Bridgetown" or "Bridgeton," and would have arisen to name the community which grew up near the crossing point, in this case, Perdioricto. There is no com-

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pelling reason to doubt that Peratia sits on top of such a town.

D. Kastri Lithies[13] (Fig. 3, site 22; Fig. 28)

Useful Maps and Charts: 17; 21,T.4

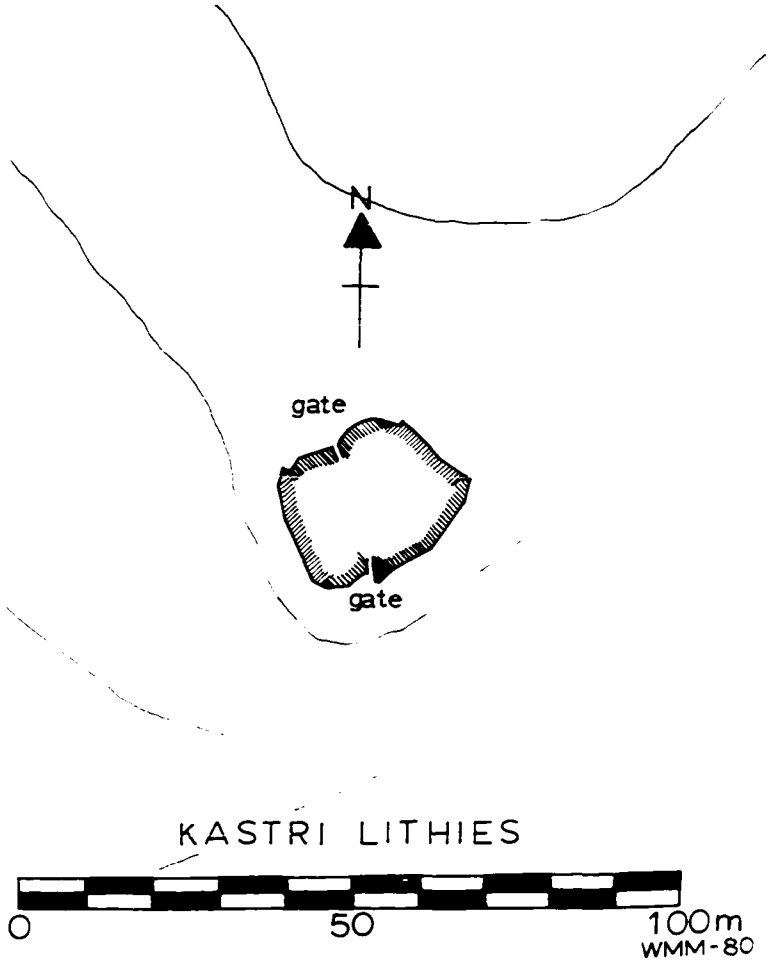

Fig. 28

Because the previous investigators of this area never bothered to describe accurately the positions of the watchtowers and forts they report, it is often difficult to identify my finds with previous discover-

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ies. Where appropriate, I will try to organize the disparate reports and identifiy them securely with my finds.

Almost due east at a distance of 2.5 km from the site Dörpfeld identifies with Nerikos is a small rounded fortress composed of loosely jointed polygonal blocks (Pl. 19.B-D). The wall construction is similar in concept to what was found in stretches of the circuit at Kastri in the Mytikas Valley, that is, there is only one face to the wall (revetted salient). This face is then backed by rubble fill and the whole entity is keyed into the bedrock at foundation level wherever possible. As can be seen from the plan, there are two small gates aligned fairly well on a north-south axis which allow access into the fortress. There is no indication of how these gates were closed. Inside, the fort is filled with rubble and many rooftile fragments, so originally, there may have been some sort of lean-to structure built against the wall. The fortress itself is quite small; the axis from gate to gate (from the outer wall surfaces) measures 19.8 m. There are a few sharp corners in the line of the wall, but none of them received drafting.

Pottery finds from inside the fortress were scanty, but fortunately the few sherds I noticed were diagnostic pieces of the late fourth and third centuries. These included the base and rim of a Korinthian type saucer and fragments of at least two different lamps.[14] Even though the fortress may have been utilized at an earlier or even later period, it is best to speculate about its use only during the period attested by the pottery. But before we engage in speculation, it will be helpful to review the scanty modern literature on Kastri.

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Heuzey mentions a "Kastri" which he describes as a "grosse tour cyclopéenne" having one gate and situated toward the sea in the Plagia Valley near the entrance to the canal.[15] Although a small ridge separates Kastri Lithies from the Plagia Valley, and it has two gates, not one as reported by Heuzey, these two kastra are probably the same. Others who have briefly mentioned the existence of this site are Lolling, Rhomaios and Kirsten.[16] Heuzey was the first to link this site with the people of Sollion who, according to his argument, also controlled the fortress above Old Plagia.[17] He is followed in this belief by Lolling.

Given the Hellenistic date of the pottery at Kastri Lithies, it is perhaps rash to associate this fortification with the fifth century Sollion of Thucydides.[18] Yet, something can be said about this fort in view of its unusual size and exposed topographical setting.

Kastri Lithies is situated on flat ground atop a rounded ridge which slopes down moderately toward a small seaside plain at a place called Cheronisi. It does not command a view of much more than the canal area and its immediate northern and southern approaches, so it is not likely to have been a watchtower. Nor does it make sense as a garrison post because it could have been easily taken by an army; the heights above the fort are completely indefensible. It seems likely, given the nature of this place, that Kastri Lithies was originally built to defend against small scale pirate attacks. And this accords well with the historical events of the second half of the third century. In the late 230's, Epiros was terrorized by Illyrian pirates. Fear and apprehension resulted in the Akarnanian League signing a treaty of al-

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liance with Queen Teuta, no doubt to safeguard against becoming the victims of such raids.[19] Ten years later we are told that the Aitolians were using Kephallenian ships to ravage the coasts of Epiros and Akarnania, and this was still apparently a concern in 218 B.C.[20] One year later, Skerdilaidas made a raid on Leukas and seized four Makedonian ships, ostensibly to recover a debt owed him.[21] These were anything but peaceful times and provide a plausible motivation for the construction of such a fort.

It is quite true that such a small scale fortress would be suitable for the early years of Korinthian colonization along this coast, but the lack of visible repairs in its masonry and the fact that the pottery definitely attests use in the third century implies that the fortification should not be associated with fifth century Sollion, but rather, with events of a later period. I could locate no nearby community or farmhouse,[22] so it is likely that this fort was built to protect a few scattered family groups, or perhaps a loosely settled community whose remains have not yet been found.

E. Kasteli at Phagia[23] (Fig. 3, site 23; Fig. 29)

Useful Maps and Charts: 17; 21,T.4; Dörpfeld (1927 : II, Tafel 2)[24]

Another small fortress or perhaps a tower is situated a little more than 2 km south of Kastri Lithies. Unfortunately, it is wretchedly preserved, its blocks utilized long ago to help build shepherds' huts and mandres. As can be seen from Pl. 20.A-C, nothing much is left at the site, yet enough remains of the foundation course to determine the

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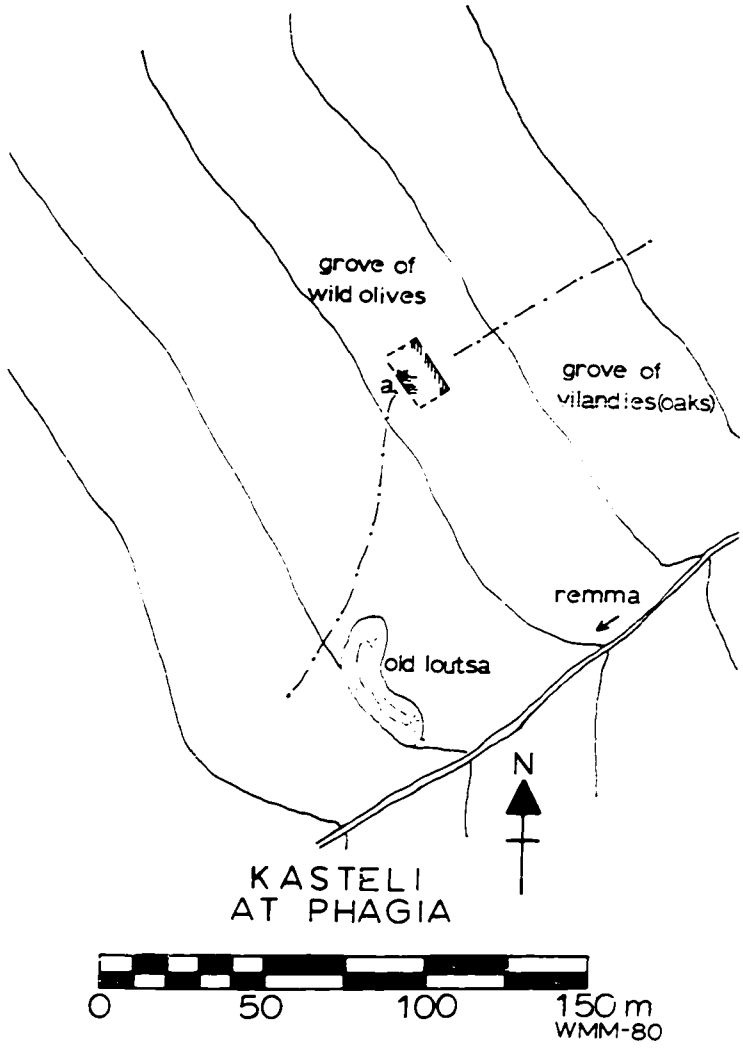

Fig. 29

original size and shape of the structure. The ground plan of the fortification is rectangular and measures 19.3 m X 11.2 m. Since the interior is now filled with a mound of earth and the wall stands no higher than two courses except at one place (Fig. 29, at 'a'; Pl. 20.B), the original nature of the structure is unclear. It was either a raised

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platform upon which an upper tower was built, or a fortress similar in concept to Pirgos on the Sklavaina Road. At point 'a' there is a finished wall face which runs perpendicular to the main side wall; originally the tower/fortress here may have been smaller (i.e., 10.6 m X 11.2 m), and then at a later date was expanded. The wall, however, does not continue through the podium from side to side, so it is best to note the peculiarity and move on.

As one might have expected, the pottery finds from the site were poor. The structure had been dismantled long ago and what remains is now buried under a thick layer of soil and covered by a carpet of grass. Nevertheless, at the southeast corner where winter rains had eroded the soil, I found a sixth century 'Corinthian A' amphora toe. Further down the slope from the structure I found a small fragment from a Hellenistic glass alabastron and a well formed flint blade.[25] Conclusions based on such evidence must be minimal.

Since we really have no ceramic evidence for dating the use period of Kasteli, we must turn to the probable function of this fort for help in dating it. Once again, as at Kastri Lithies, this structure is too poorly placed to serve any other purpose than that of a temporary refuge, for example, as a stronghold against pirates or thieves. Furthermore, the size of the structure is a bit larger than would be expected of the farm-tower type.[26] Remembering what was said in relation to Kastri Lithies we are faced with two logical time periods of use: 1) after the settlement of colonists by Korinth in places like Sollion, and 2) during the years of pirate raids during the third century.

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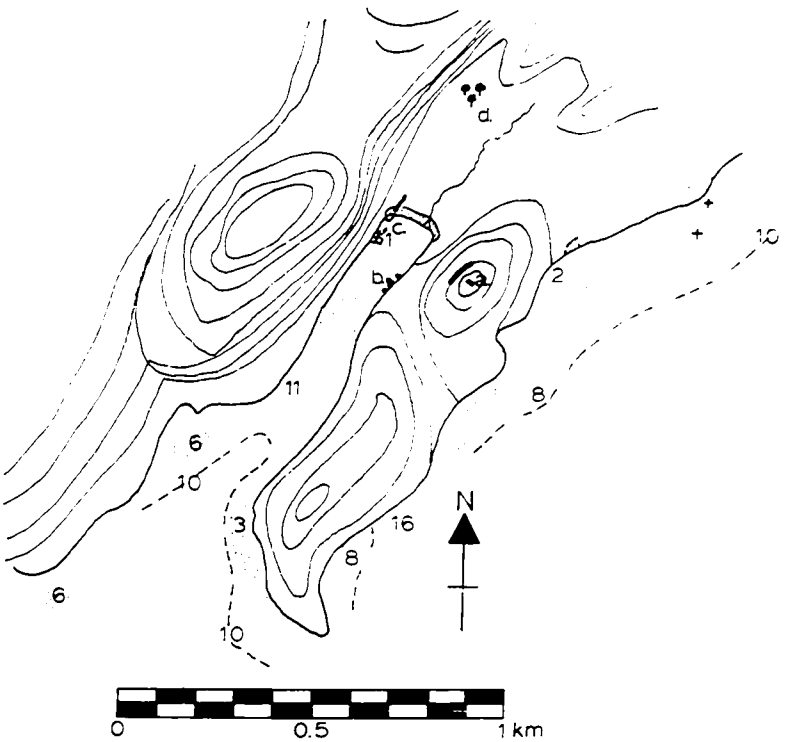
F. Vathy Avali Fig. 3, site 24; Fig. 30)

Useful Maps and Charts: 15; 21,T.4; Denham (1978 : 30)



Vathy Avali

Fig. 30

Vathy Avali is the only well protected anchorage that exists between the ancient sites of Leukas and Palairos' harbor near Pogonia. As can be seen from Fig. 30, Vathy Avali is a long, narrow inlet which opens toward the southwest. Even though it is narrow, the water in it is deep and the shape of the cove would not have been greatly affected by a 3 m lowering of the sea level. The only radical change would have been the raising of the Miaouli Reef (current depth = 2.7 m;

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located approximately 1 km southwest of Cape Parathira--the south end of the eastern protecting arm of Vathy Avali) to approximate sea level. Though a nuisance, this obstacle would not have affected greatly the usefulness of this harbor.

At the head of the bay in 1.0 m of water are what appear to be the foundations of small square structures (Fig. 30, at 'c'). I was hindered in searching for sherds in the water here by the "oily" effect caused when fresh water from a sea level spring mixes with the salt water of the bay. Although I cannot be 100% certain, the area seemed to be devoid of sherds and the lines of stones in the water are probably natural; a low altitude aerial photograph could be very revealing.

What appears to be a retaining wall runs inland from this area, but it too may be merely a deceptive natural feature. On the eastern side of the bay area are three rounded heaps of stones--the remains of three small landing platforms (Fig. 30, at 'b'). Running toward the southeast is another small plain which cuts between between two hills. Here and there are piles of rubble which may once have come from structures. To the west of 'b,' is a low hill on top of which was built a rectangular building (Fig. 30, at 'a'). It measured 9.15 m X 5.7 m and had a cross wall 3.5 m from its northwest end. Only its foundations remain (the blocks are about 0.25 m thick), but the interior is littered with Lakonian rooftiles; unfortunately, I found no pottery. This structure may once have been a tower, or it may have been a medium sized house. Its preservation is so poor that little more can be said about it without excavation.

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Down the hill from this foundation toward the northwest is what appears to be a coarse defensive wall, but the rough nature of the terrain and the wall-like appearance of the bedrock outcroppings left me somewhat skeptical. To the north of the beach is a flat plain which rises gently toward the northeast; there are numerous rubble enclosures of no great antiquity throughout the plain. Near a stand of three large oaks (Fig. 30, at 'd') I found a black glazed sherd, and further toward the southeast in the small remma, there were many coarseware fragments. I also found a few sherds of finer quality which exhibited rouletting. Unfortunately, none of these proved to be very diagnostic.[27] By coming to Vathy Avali, I had hoped to find the site of ancient Sollion; one thing is certain--I did not find it.

I only made one trip to this remote bay and the possibility exists that I overlooked more substantial remains; I certainly did not find the origin of the pottery in the remma. Yet, in light of what I did find, it seems likely that during the past (perhaps in the Hellenistic period) there was at least one farm complex here with an accompanying stronghold to protect against pirate raids.[28]

G. Sollion

The few concrete facts we know about this settlement come from Thucydides.[29] During the first year of the Peloponnesian War, the Athenians took this πόλισμα of the Korinthians and gave over its land and the community to the inhabitants of Palairos.[30] In 426, when Demosthenes was busy trying to take the city of Leukas, he was persuaded to give up the siege and to attack Aitolia. He weighed anchor with his

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whole force and παρέπλευσεν ἐς Σόλλιον where he told the Akarnanians of his intentions. They withdrew from his force in protest.[31] After the Peace of Nikias had gone into effect, the Korinthians were bitter that Sollion and Anaktorion had not been returned to them.[32] And although we hear no more of Sollion, presumably it remained in Akarnanian hands. What happened to this community in later history is not recorded.

We are left with few facts, but they are helpful. Sollion was a πόλισμα (which probably implies that the settlement was a small one[33]) of the Korinthians and was located somewhere near both Leukas and Palairos. The settlement was sited near the sea and obviously could be readily approached from the water although we are never told it had a proper harbor. What Thucydides chooses to stress is the fact that the polis, along with its land (not harbor), was delivered over to the Akarnanians of Palairos. The importance of the community is difficult to assess. Demosthenes sailed to Sollion to inform the Akarnanians of his plan to withdraw, although the Akarnanians with his force at Leukas already knew of this fact.[34] Why he felt it necessary to go to Sollion is never made clear. Later, we find that the people of Palairos wanted the community enough to refuse giving it up, and conversely, the Korinthians (i.e., the Leukadians and Korinthians) were angry because it had not been returned. The community had land, some sort of harbor (but not necessarily a fine one) and was located so as to be wanted by both Leukas and Palairos.

The candidates which have been proposed for Sollion are as follows:

Stravolimiona: Proposed by Leake (1835 : IV,19); called Stavrolimnionas on Map nos. 19 and 21.

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Zaverdha: Proposed by Preuner (1902 : 331); but see my n. 35; today Zaverdha is called Palairos.

In Zaverdha Bay: Proposed by Bursian (1862 : 115).

Pogonia: Proposed by unnamed "German archaeologists"; see Rhomaios (1918 : 114).

Fortress above Plagia: Proposed by Heuzey (1860 : 396); followed by Oberhummer (1887 : 30-31); Lolling, Urbaedeker, CLXXXIII; and Rhomaios (1918 : 114); the modern name for this fortress is Sterna.

Kastri: Proposed as a possession of Sollion by Heuzey (1860 : 396-97); followed by Oberhummer (1887 : 31); and Lolling, Urbaedeker, CLXXXIV; the modern name for this fortress would seem to be Kastri Lithies, but see my n. 36.

Stravolimiona (Stavrolimnionas) is completely untenable as a site for Sollion because of its remoteness from Paliros. It is situated on the precipitous mountain ridge which runs along the sea between Mytikas and Astakos. Today, the steep hillside is well cultivated above Stavrolimnionas but certainly it is not the sort of place we should look for a Korinthian settlement. Such settlements were located with an eye toward good farmland or a fine harbor or a combination of these two factors, none of which Stavrolimnionas possesses. The coast is steep-to and rugged, and only a mad oikistes would settle here rather than a few kilometers to the northwest where the wide, flat plain of Mytikas is located. It would be difficult to explain the tenacity with which Palairos held on to the place and the bitterness felt by Korinth for not getting it back were Sollion to be located here.

The identification of Zaverdha with Sollion has resulted from the argument that the site must be situated at a good harbor because the whole Athenian fleet of 100 ships sailed there to inform the Akarnanians that the siege of Leukas was off. There are two possible places for a

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settlement with a harbor in this wide bay--at Zaverdha (modern Palairos) and at Pogonia.[37] Preuner misread Bursian's statement that Sollion was to be located in Zaverdha Bay and places the site at Zaverdha. To the best of my knowledge, there are no ancient remains at modern Palairos, so it is a bit surprising to find that Noack locates Sollion here too. The same objection has been raised by Rhomaios (1918 : 114) against the identification of Pogonia with Sollion: οὐδαμοῦ φαίνονται πλησίον ἐρείπια τείχους, yet he does note that the harbor of Palairos should be located here. The identities of the "German archaeologists" he makes reference to are never revealed.

The main objection I find to Sollion's placement at either Palairos (Zaverdha) or Pogonia is the fact that it seems implausible to me that the ancient city of Palairos could not control its own plain. This belief was first expressed by Heuzey because he believed there was a fortified road leading from Thyrreion (Agios Vasilios) to the sea near modern Palairos.[38] I have already discussed my objections to this view and see no reason to deny the obvious, that ancient Palairos was situated back from the sea for reasons of security like Alyzeia and Astakos, and that it must have controlled its own outlet south to the sea from the time of its founding.[39] Oberhummer argues that Sollion cannot be located here because Thyrreion controlled the plain;[40] I would argue in response that Sollion cannot be here because Palairos, the city to whom Sollion was given, already controlled the land.

The last remaining place which still fits Thucydides' account is the Plagia Peninsula. Sollion must be located somewhere along the shore,

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south of Leukas, and should fit the land or harbor criteria of Korinthian colonization. Considering these criteria, the mountaintop fortress called Sterna above Old Plagia is also a poor choice for the site of Sollion. It is simply too far away from the sea. This point was clear to Heuzey who argued that the fortress called Kastri also belonged to Sollion. When Kastri and Sterna were the only two sites known in this area, his argument made some sense. But now that it is clear that at least two communities existed along the canal facing Leukas, Sterna's identification as a fortress belonging to Sollion becomes less compelling. It has also been pointed out that Thucydides' verb παρέπλευσεν does not make much sense if Sollion is to be located somewhere in the valley leading into the peninsula north of the fortress called Sterna. Kastri Lithies might be considered a candidate were it not for the likelihood that this small fortress was built much later, that there is neither much farmland nor a good harbor nearby, and that no nearby community has been located.

Where does all of this lead us? to Phagia, or further along the coast, to Vathy Avali. Both of these areas are near enough to Palairos to be of interest to her, yet close enough to Leukas to have been within her peraia. Furthermore, it is the dispute over control of the Leukadian peraia which was at the root of the Akarnanian-Leukadian hostility in the fifth century.[41]

Both Phagia and Vathy Avali possess adequate farmland for a small community and Vathy Avali is situated in a beautiful little harbor, while Phagia is situated within sight of the ancient city of Leukas and near

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an adequate landing called Limin Dhrepanou. Phagia, of course, is where a Korinthian amphora fragment turned up of the correct date; it is certainly not decisive evidence, but interesting nevertheless.

One question remains to be discussed. Why, after the siege of Leukas was called off, did Demosthenes sail with his full force to Sollion to tell the Akarnanians of his plans? We can only imagine that Demosthenes wanted to retain his contingent of Akarnanians if at all possible since Thucydides implies that the size of the contingent was considerable (3.94.1). We are told that those serving at Leukas were unwilling to join the expedition against Aitolia (3.95.1: ἀκόντων τῶν Ἀκαρνάνων) but nevertheless must have sailed with him to Sollion to confer with the force that was there. Events at Olpai during the winter of this year show that the decisions affecting the army were made jointly by all the generals;[42] their opinion, no doubt, was also affected by the majority wish of the army. Such a mechanism seems to be at work here. The Akarnanian force had come from all over Akarnania (except Oiniadai: Thuc. 3.94.1) and presumably was acting in the interests of Palairos. Therefore, before officially withdrawing from Demosthenes' force, they went to confer with the commander (perhaps one of the generals) and garrison of Palaireis at Sollion. When they also expressed their opposition to the decision (3.95.2: ... ὡς οὐ προσεδέξαντο διὰ τῆς Λευκάδος τὴν οὐ περιτείχισιν ...), Demosthenes continued on his way without the Akarnanians. This stopover conference allowed him another chance to persuade the Akarnanian force to stay with him, or perhaps (if a general had been at Sollion) it was a necessary formality required

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by his ally.

In conclusion, it should be stressed that the site of Sollion has not yet been located. On the negative side, I believe we know that Sollion was not located at Stavrolimnionas, in Zaverdha Bay, at or near Sterna or Kastri Lithies. On the positive side, I conclude that it must be located somewhere along the southwest coast of the Plagia Peninsula. If pressed to choose between the areas of Vathy Avali or Phagia, I believe the odds favor Sollion's location being somewhere in the flat, wooded region of the latter alternative.[43]

The Watchtowers and Garrison Stations of the Plagia Peninsula (Cf. Fig. 18)

Set atop mountain peaks or on high ridges overlooking Leukas and the whole Plagia Peninsula are at least three hill fortifications. Due to their small size, two of the three must have been constructed as surveillance points, able to broadcast the approach of enemy forces to both Leukas and Palairos and to relay messages from one city to the other. The third fortification is quite large and was designed to garrison a substantial force. Its history may be more complex.

H. Pirgos on Kotoupa (Fig. 3, site 25; Fig. 31)

Useful Maps and Charts: 17 (hill 347); 21,T.4; Dörpfeld (1927 : II, Tafel 2), but see n. 24, p. 220.

To the northeast of Phagia atop a ridge called Kotoupa are the remains of a poorly preserved watchtower (Pl. 21.A, B).[44] It is built out of polygonal blocks with the northwest wall utilizing a bedrock outcrop.

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Fig. 31

The tower was originally hollow with a gate at ground level. Though hollow, its walls are quite thick and must have originally been carried higher in either mud brick or stone.[45] The southeast wall has collapsed down the slope and has exposed numerous sherds and heavy Korinthian pan tile fragments. Without the southeast wall preserved, the tower's exact dimensions are unrecoverable; it was certainly no larger than 10.0 m

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(NW) X 12.5 m (NE restored).

The pottery scattered below the tower due to the collapse of the southeast wall dates generally from the mid-fourth century through the third century. Exact dates are not possible to determine, but the use period revealed by the pottery indicates that it was used on more than just a single occasion; Pirgos may have been utilized off and on for more than a century.[46]

Pirgos makes best sense as a watchtower because of its remote placement, its small size, and its magnificent vista. From here, one can see Leukas city and its harbor (Pl. 21.C), Antipaxos Island (south of Kerkyra), Sterna, Trikorpho, Kalamos Island and Kephallenia. In short, from here one could observe all naval movements from the Paxoi Islands to Kephallenia. What is not visible is also important: Aktion, ancient Palairos, Kastri above Agios Athanasios on Plakoto and Kastri in the Mytikas Valley. Signals could not be sent directly to these places.

I. Kastro on Kokkino Stephani, Trikorpho (Fig. 3, site 14; Fig. 32)

Useful Maps and Charts: 17 (Tris Piryio); 21,T.4 (Tris Piryio); Dörpfeld (1927 : II, Tafel 2), indicated but not named

Northeast of Kotoupa are the remains of a larger observation station which is much better preserved than Pirgos. The remains sit atop the highest of the three peaks of the massif called Trikorpho, at a place the villagers of Plagia call Kokkino Stephani--the "red crown."[47] Built in a polygonal style, the exterior walls form an almost perfect square with sides of approximately 23 m; all corners exhibit drafting.

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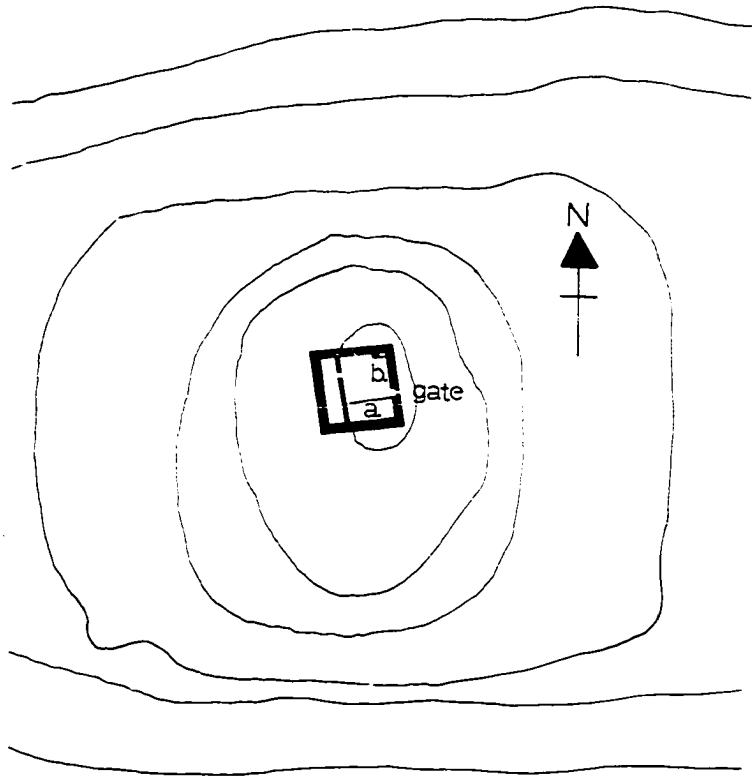

KASTRO ON
KOKKINO STEPHANI:
TRIKORPHO

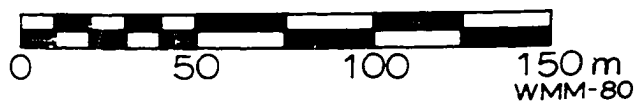

Fig. 32

A small gate with stops to receive a door opens through the eastern wall and a flight of steps mounts the wall in the northeast corner (Fig. 32, at 'b'; Pl. 22.B). The wall's thickness (2.05 m) allows us to restore a walkway atop the circuit. The general area of 'b' was most likely an open courtyard. Along its south side is a wall which probab-

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ly closed off the fort's storeroom. Here, the walls have collapsed inward and consequently room 'a' is filled with rubble; in this room some fragments of a large pithos were found.

The western side of the interior is closed off by another cross-wall forming what might have been the sleeping quarters for the men who were stationed here. Since Korinthian and Lakonian style rooftile fragments litter the site, it is likely that the barracks and the storeroom/kitchen would have been roofed. Slightly below this fortress to the south is a small flat area which forms a perfect exercise ground or perhaps a place to build a signal fire.

The view from this spot is superb. One can look directly toward ancient Palairos (Pl. 22.A), across to Kastri above Agios Athanasios, down the coast to the southeast toward Kephallenia and across to the entrance of the Leukas Canal. Sterna to the north is within shouting range on a still day. The only spot which is not visible is the ancient city of Leukas (Pl. 22.C).

Because the exterior walls of this kastro are still intact, and because the upper portions of the walls collapsed inward, surface finds from this site were few and unfortunately not diagnostic. I am convinced that the excavation of room 'a' would provide the pottery to date this structure. The nature of this site is much clearer than its date, however. Kastro is a substantial observation station with the capability of housing a small garrison of men. Because it cannot "see" the ancient city of Leukas, it makes little sense as a "Beobachtungspost gegen Leukas;"[48] its position makes much more sense as a signal relay

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station. A signal from Leukas could be sent via Sterna to Kokkino Stephani and from there into the Palairos Valley and to the harbor near Pogonia.[49] Of course any beacon fire lit here would be fully visible at ancient Palairos as well.

J. Sterna (Fig. 3, site 15; Fig. 33)

Useful Maps and Charts: 17 (hill 508 near Pigadhoulia); 20; 21,T.4; Dörpfeld (1927 : II, Tafel 2), near Plagia atop hill 503; Oberhummer (1887 : marked "Sollion?" on the map entitled "Akarnanien u. das angrenzende Gebiet" which occurs after the text)

Directly across a deep valley to the northwest of Trikorpho is the well known and quite substantial fortress called Sterna. The site was first reported by Heuzey who identified it with Sollion, but who devoted less than a paragraph to its description.[50] Lolling also briefly noted this fortress as did Oberhummer and Rhomaios and they all agreed with Heuzey's identification without adding to his observations.[51] Although subsequently mentioned by Noack, Kirsten and Scranton, no plan has ever been published nor has anyone adequately described the site.[52] What follows are the observations I made while mapping the site in 1979 and 1980.

Situated at the highest point of the central, most dominant ridge of the Plagia Peninsula is the largest and most complex of the mountain fortresses between ancient Palairos and Leukas. The site overlooks the main valley of the peninsula and the route which runs from Leukas to Palairos. From here opens a magnificent vista to the north (including Preveza and Aktion), the west and the southwest. Here too, more than anywhere else, lies the key to controlling the Plagia Peninsula, in

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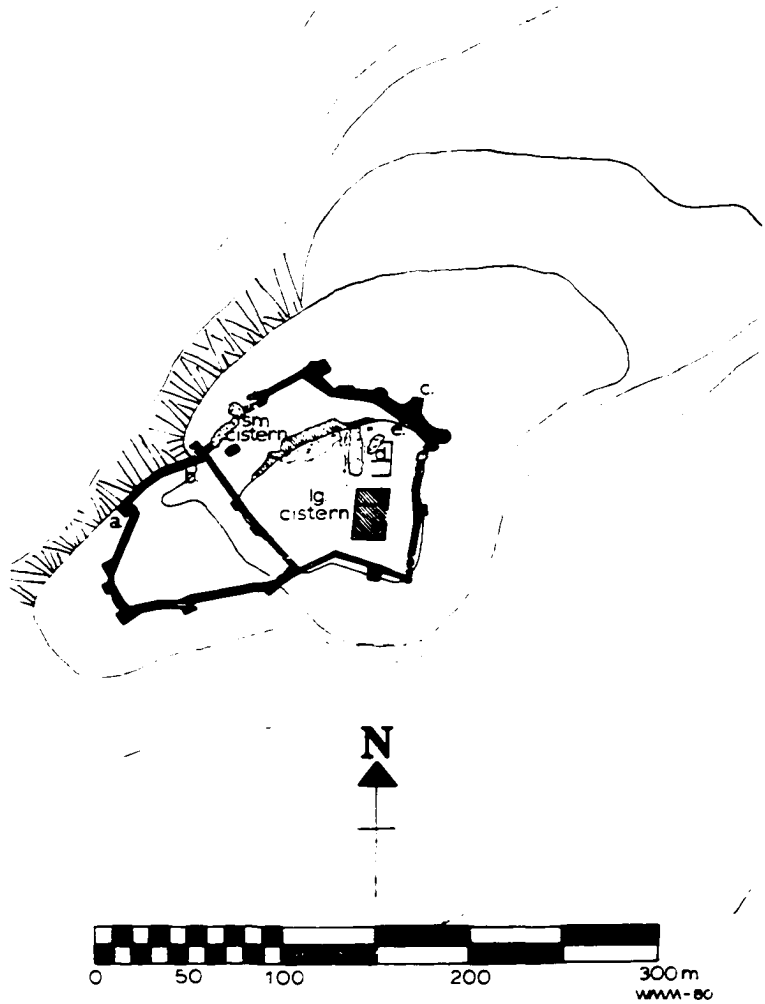

STERNA

Fig. 33

allowing or hindering free communication and traffic between Leukas and the nearby poleis of the mainland--Palairos and Anaktorion.

The size of the fortress is impressive; its circuit, built in a polygonal style, is just over 500 m in length. Like Kastri above Agios Athanasios, a crosswall divides the fortress into two sections of un-

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equal elevation. The lower half, situated toward the southwest, exhibits a gate (Fig. 33, at 'a') and a number of small squared projections that extend outward from the southern side of the wall. These would have defended against any attack originating up the ridge from the southwest. None of the squared corners received drafting. The gate, now clogged with rubble and soil, is still largely intact (Pl. 23.B), measures 1.3 m in width and runs back into the hillside about 3.0 m; none of its corners are drafted.

The interior of this lower fortress is now so littered with fallen stones that it is impossible to tell if permanent barracks were built here or not (Pl. 23.C). An aerial photograph might help us to discern structures out of what now appears to be a random mass of rubble. Throughout this section, I found few fragments of rooftiles and no pottery. The construction of the circuit offered no obvious anomalies except on the northwest side near the crosswall (Fig. 33, at 'b'). Here were three lines of foundation blocks, as if the wall had originally been 2.5 m thick and then was later thickened to a width of 3.7 m (Pl. 23.D).

The upper fortress contains what might reasonably be called the headquarters of the camp. For it is here, on the eastern side, that one finds a large rock-cut cistern (Pl. 24.A) and the rock-cut outlines of at least two rooms (Fig. 33, at 'd'). The cistern is large and seemingly compartmentalized; it is partly cut into the bedrock and partly built up in stone. Originally it must have been covered.[53] The rock-cut rooms shown at 'd' were probably part of the fort's storehouse, and a few

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squared blocks lying nearby may have come from this complex of rooms.

North of the area marked 'd' was a very thick section of the wall which originally was approached up a small ramp (marked 'e'). The full extent of the northern wall is very peculiar in appearance. At its thickest point (from 'c' to 'e') it is about 17 m thick and the line of its exterior face really must be seen to be believed. The original nature of the wall was nothing more than a large, thick bastion with a highly irregular face. These irregularities can partially be explained by quirks in the bedrock on which the wall is founded, yet it seems as if the architect amplified rather than diminished the resultant effect.

Analogous to the southwest end of Sterna, the northeast extremity was designed to hinder attacks originating up the ridge from the north. In such a situation, this bastion could have served as a platform for a battery of small sized artillery. This seems to be indicated by the concentration of projections here. Yet, this upper portion of the northeast circuit may have been used for another purpose as well. Exactly on this spot is located the highest point in the Plagia Peninsula. This broad bastion could also have served as the signal platform, the point from which fire and smoke signals were sent to lower lying population centers.

There are two anomalies in this northern wall which should be mentioned. The only drafted corner in the whole fortress occurs in the one remaining foundation block of the northwest tower's northern corner.[54] It seems strange that only this one block out of the countless other corner stones in this fort received drafting; yet I can only report what

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I cannot explain. The other anomaly is the clear existence of two building phases of the projection marked 'c.' Originally the projection had a squared end which faced due north; at some later date, this terminus was rebuilt in a slightly curved line and realigned toward the northeast.

The northwest wall is only partially preserved; where it runs into some bedrock outcroppings, it completely disappears. Near these outcrops is a small rock-cut cistern which can be seen near the crosswall in Pl. 23.E (cf. also Fig. 33). At the logical extension of this crosswall there seems to have been a tower originally; a few of its foundation blocks still remain. The crosswall itself is over 80 m in length with two small towers facing into the lower fortress, stressing the relative importance of this "upper keep." Since no gate exits through this wall, one originally mounted to the upper level via ladders, wooden steps or atop the circuit wall itself.

The use period of this fortress is only hinted at by the few sherds I managed to find. Southeast of the large cistern, a portion of the wall has collapsed. 10-20 m down the hillside was scattered a paltry selection of sherds once contained in the fill behind the wall. This evidence, coupled with a skyphos base in the collection of the American School which came from this site, indicates Sterna's use possibly as early as the mid-fifth century and certainly during the first half of the fourth century.[55] Yet, Sterna must have been in use throughout the fourth and third centuries. The fortifications atop nearby Trikorpho, Kotoupa and distant Plakoto attest to a well thought out signal network.

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The position at Sterna is the key to such a network and it is difficult to imagine the building and manning of a station at Kotoupa in the mid-fourth to third centuries if Sterna was available for use, but abandoned. As stated above, this site is the key to controlling the Plagia Peninsula; here, a substantial force could be garrisoned, poised to give reinforcement help where needed during times of war and unrest. The two examples of multiple building phases might also argue for the extended use of this fort. And finally, there is the obvious fact that this is the largest and best equipped fortress in the entire peninsula. It is inconceivable that during the troubled times of the Hellenistic period this fort lay near at hand, but unused. Surely an Epirote garrison was stationed here when Epiros controlled this portion of Akarnania in the two decades after 350.

The real problem, of course, is involved when we go the other way, into the fifth century. Was this fort controlled by Leukas as an extension of her peraia, or was it controlled by Palairos as a defense against this peraia? When Thucydides speaks of the Leukadian lands outside the peninsula as being laid waste (3.94.2), this really cannot be stretched to include Sterna. If Leukadians were at Sterna, we would expect the Athenian force to attack there first. In 426, Sterna is thus in Akarnanian hands. But if Sterna had belonged to Sollion, Thucydides' account would still make sense since Sollion had fallen five years before. But, as previously noted, Sterna's placement does not fit the description given in Thucydides 2.30.1.[56] For the Athenians on the 100 ships to have permanently taken Sollion (which was the case as later

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events proved), the fortification at Sterna must also have been taken. Therefore, a force would have been detached from the fleet to make the two hour journey (hard work for an unburdened man) up to the fort. If all the 1000 marines had gone on this trip, the fleet would have been vulnerable to reprisal attacks from Leukas. Had less than the full contingent come, it is inconceivable that they could have taken the fort. Certainly their approach would have been observed well in advance by those at Sterna and the Leukadians would have had ample time to dispatch reinforcements. Sterna as a Leukadian outpost simply does not fit our facts; it must always have been in Akarnanian hands, both before and after 426.

In conclusion, this fortification was probably built by Palairos at Sterna before the Peloponnesian War to serve as a border fortress and observation post. The fort continued to secure the Plagia Peninsula throughout the fourth century and served as the primary signal station which informed Palairos of naval and army movements to the northwest, west and southwest of the Plagia Peninsula. By the third century, it probably served with subsidiary stations at Kotoupa, Trikorpho and Mt. Tavros[57] as part of a communications network linking together Palairos, its harbor, the southwest sector of the Plagia Peninsula and the ancient city of Leukas. At some point during these years the walls of the fortress were strengthened and at least one tower was rebuilt with a curved end in place of its earlier squared one. From c. 253 to c. 231, this fortress would have provided an excellent position for a garrison of Epirote troops[58] and also provides a perfect example of what Aratos the

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Sikyonian had in mind when he told Philip V: "There are many spots in Akarnania, some in the hinterland and some along the coast, which have incredible defensive strength."[59]

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Notes to Chapter VIII

[1] See Appendix C, no. 7.

[2] Dörpfeld (1927 : I,269-71; II, Beilage 50).

[3] Ps.-Skylax 34; Strabo 10.2.8; Suida s.v. Νήριτον; and Eust. Il. 306.44-46; 1838.63; 1964.48-52 refer to the ὁμτὴ ἠπείροιο as Leukas. Those who are persuaded by Dörpfeld's argument that modern Leukas is to be identified with Odysseus' Ithaka believe that this phrase refers to the Plagia Peninsula or "Bergland" between ancient Palairos and Leukas. For an excellent discussion of the history of the controversy, see Dörpfeld (1927 : I,1-58).

[4] Thucydides uses Λεύκας for both the city (1.30.2 etc.) and for the island (2.30.2; 6.104.1; 8.13.1) pace Dörpfeld (1927 : I,134).

[5] See p. 245.

[6] See Herbst (1936 : 31) for a discussion of the various views.

[7] Dörpfeld (1927 : I,269-71).

[8] See n. 41.

[9] For the problem of Sollion's location, see pp. 200 ff.

[10] See n. 62, p. 263.

[11] Dion. Hal. Rom. Ant. 1.50 speaks of a small island μεταξὺ τοῦ Διορύκτου τε καὶ τῆς πόλεως which makes more sense if Dioryktos is interpreted as a specific place somewhere opposite the city on the Akarnanian shore. This is essentially Oberhummer's position on the matter (1887 : 10 n. 1); cf. also Kiepert, Neues Atlas von Hell., VII, which has presumably been influential on the placement of the town in the Bayerischen Schulbuch Verlag, Grosser Historischer Weltatlas, 5th ed. (München, 1972) 26.

[12] Miller (1916 : 563 and map 179, cols. 561-2).

[13] The bearings which fix the location of this fortress are (all bearings are magnetic, 1980; variation is approximately 1° E): 276° to the fortress Ag. Georgios near Plagia; 48° to the peak named Gradha (Map no. 17, hill 329); 196° to the small town Keramidhaki on Leukas.

[14] See Appendix B, nos. 24-26.

[15] Heuzey (1860 : 396-97).

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[16] Lolling, Urbaedeker, CLXXXIV (?, see p. 202 and n. 36); Rhomaios (1918 : 114); Kirsten (1943 : 2466).

[17] Today this fortress is called Sterna; see pp. 211 ff.

[18] See pp. 200 ff.

[19] For this period, see Polyb. 2.6 and p. 335.

[20] Polyb. 5.3 ff.

[21] Polyb. 5.95.1-4.

[22] Kastri Lithies is really too large a structure to be similar to the farm towers which have been documented in southern Attica and Siphnos by Young (1956a-b).

[23] The bearings which fix the location of this fortress are (mag., 1980): 310° to Ag. Georgios near Plagia; 255° to the radio station atop Mt. Ag. Elias (also called Oros Agios, Oros Elias and Mt. Elias on various maps and charts) on Leukas; 291° to Akra Limi on Leukas; and 209° to Nisos Madhuri.

[24] The red rectangle near hill 360 on von Marées and Gräfinghoff's map is not to be misconstrued as this fort. Although they have not placed it in exactly the correct spot, they are most likely trying to denote the position of Pirgos on Kotoupa; see p. 206 for a reference to this map.

[25] See Appendix B, nos. 27-28.

[26] See n. 22.

[27] See Appendix B, no. 29.

[28] Cf. the references cited in n. 22 for examples of such protective towers.

[29] Geyer (1927 : 932-33) makes the assumption that the settlement was established when Kypselos sent out colonies to Leukas and Anaktorion. And although this may have been the case, it is based only on conjecture; cf. Strabo 10.2.8 and Nic. Dam. FGrH 90 F 57.7, our sources for Kypselos' colonization activities.

[30] Thuc. 2.30.1.

[31] Thuc. 3.95.1-2: ... ἅρας οὖν ξύμπαντι τῷ στρατεύματι ἀπὸ τῆς Λευκάδος ἀκόντων τῶν Ἀκαρνάνων παρέπλευσεν ἐς Σόλλιον. κοινώσας δὲ τὴν ἐπίνοιαν τοῖς Ἀκαρνᾶσιν, ὡς οὐ προσεδέξαντο διὰ τῆς Λευκάδος τὴν οὐ περιτείχισιν, αὐτὸς τῇ λοιπῇ στρατιᾷ ... ἐστράτευσεν ἐπ' Αἰτωλούς.

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[32] Thuc. 5.30.2.

[33] Cf. especially Thucydides' use of the word in 1.10.1.

[34] See n. 31.

[35] Preuner misunderstands Lolling's argument (who agrees with Heuzey's identification) and misinterprets Bursian's argument. Bursian merely places the site somewhere in Palairos Bay, not necessarily at the site of Zaverdha.

[36] It is difficult to explain the apparent confusion evident in this identification (see p. 194). Lolling's account is as follows: "Näher dem Meere liegt auf der in den Canal vorspringenden Bergspitze eine grosse Thurmruine mit polygonen Blöcken. Die Stelle wird Kastri genannt. Wahrscheinlicher als die Heuzeysche Ansicht, dass diese Ruinen ursprünglich zu Sollion gehörten, ist es, dass dies nur kleine Fortification waren, welche den Weg von dem alten Paläros (Kechropula) nach dem Dioryktos, dem Isthmos von Leukas, überwachen sollten." The ridge on which Kastri Lithies stands does not "jut out" into the canal. He cannot mean the remains at Ag. Georgios, nor those at Peratia because these do not fit the description of a small tower-like fortress. Perhaps he is referring to remains now gone at Palaiochalia, but to my knowledge this site has never been called Kastri. If he is referring to Kastri Lithies, he is mistaken in believing that it can watch over the route from the isthmus up the Plagia Valley to ancient Palairos.

[37] This view is clearly reflected in the dual placement of Sollion on the map of v. Marées and Gräfinghoff in Dörpfeld (1927 : II, Tafel 2).

[38] Heuzey (1860 : 379).

[39] See p. 141 with notes.

[40] Oberhummer (1887 : 30 and 36).

[41] The ancients believed the origins of this hostility stretched back to the founding of Leukas when the tradition records that the Akarnanian inhabitants of the area were killed and their land taken from them (Ps.-Skylax 34; the belief that Akarnanians once held Leukas is reflected in Dion. Hal. Rom. Ant. 1.50). Regardless of the exact details, the Leukas Canal area provides a well defined border between the peoples of each side. That Leukas controlled both sides is clear from the harbor mole which stretches from Leukas to the Akarnanian shore, and from Thuc. 3.94.2 which describes Leukadian lands both inside and outside the isthmus, i.e., on both sides of the canal. This fact, plus the settlements of Sollion, Anaktorion and possibly Nerikos were viewed unfavorably by the major Akarnanian city in this area, Palairos. Thus, the Akarnanians describe Leukas as a place that had always been hostile

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to them (Thuc. 3.94.2), and the affront caused by Demosthenes' breaking off of the siege at Leukas was not quickly forgotten (Thuc. 3.95.1; 102.3). Clearly, when Sollion was given over to Palairos in 431, it was not because the two cities "were friends;" cf. Leake (1835 : IV,18). For a brief description of this hostility, see Rondoiannis (1980 : 132-33 and 147) and Oberhummer (1887 : 76-77).

[42] See n. 41, p. 303.

[43] The one problem with this choice is the lack of a known water source at Phagia. The inhabitants who lived there within the remembered history of Plagia's townspeople used to construct λούτσες or earthen cisterns to store rain water; some were even lined with stones. The remains of such a λούτσα exist almost due south of Kasteli. But λούτσες are inadequate for the storing of water throughout the summer; proper cisterns would be needed for a community to stay here year-round. If Sollion was located here, either its water source has gone dry, or it employed cisterns. As concerns Vathy Avali, I was told there was no water source there either. Yet, the "oilyness" of the water near the beach (Fig. 30, at 'c') implies some fresh water source which possibly could have been tapped somewhere by a well.

[44] This is to be identified, surely, with Rhomaios' [τεῖχος] ἐπὶ τοῦ Φαγιᾶ (1918 : 114).

[45] The northwest wall is 3.1 m thick, the northeast wall is 3.7 m thick tapering to 2.5 m, and the southwest wall is 2.4 m in thickness. Stones were quarried from the site.

[46] See Appendix B, nos. 30-36.

[47] This kastro is definitely the [τεῖχος] ἐπὶ τῶν Τρικόρφων of Rhomaios (1918 : 114) and is most likely Noack's "Wachtanlage auf der Pyrgoskuppe" mentioned by Kirsten (1943 : 2466). Can it be assumed that Pyrgoskuppe is roughly equivalent to Tris Pirgoi, i.e., Trikorpho? The appelation "Wachtanlage" certainly describes the remains at Kokkino Stephani quite well.

[48] Kirsten (1943 : 2466).

[49] See n. 57.

[50] Heuzey (1860 : 396).

[51] Lolling, Urbaedeker, CLXXXIV; Oberhummer (1887 : 31); Rhomaios (1918 : 114).

[52] Noack (1916 : 220, n. 3); Kirsten (1943 : 2466); Scranton (1941 : 165).

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[53] Cf. the remarks concerning the cistern at Kastri in the Mytikas Valley, p. 88 and n. 15. Unfortunately, I did not have time to measure the dimensions of the cistern. Those assigned to it in Fig. 33 are relative to the wall circuit and are not exact. Nevertheless, its true size cannot be much different from that shown.

[54] This tower has a strange ground plan. It essentially has three corners--one to the northwest, one to the north and one to the northeast. The lowest block of the middle corner has been drafted. It is impossible to tell if the full vertical extent of the corner received drafting because only the lowest block remains in situ. None of the surrounding fallen blocks exhibited drafting, yet some were buried so as to reveal only one or two edges.

[55] See Appendix B, nos. 37-44.

[56] See pp. 200 ff.

[57] Kirsten (1943 : 2466) reported that Noack located "zwei Beobachtungstürme auf der Tauroskette." I was not able to check the area of Mt. Tavros personally (hill 480, due west of Pogonia on Map no. 21, T.4; it is unnamed on Map no. 17, but is indicated just to the right of the map's conversion table and is given an elevation of 480+ m), but it seems there is another communications station here, perhaps two. The appelation "Pelasyikon Tikhos" which appears on the British Staff Map (Map no. 21,T.4) between "Tris Piryio" and "Tavros" tells us little, unfortunately; it could refer to either mountain. A watchtower on Mt. Tavros makes excellent sense however, because it could signal the approach of a friendly or hostile fleet to the harbor of Palairos near Pogonia. The signal could be seen on nearby Trikorpho (Sterna would not be visible from Mt. Tavros) and relayed quickly to the harbor. Kastri above Ag. Athanasios and Pirgos below it would, on this interpretation, be used mainly for messages relayed between Palairos and its harbor. Those originating from Leukas, Sterna or Trikorpho would come to the harbor via the station(s) on Mt. Tavros.

[58] For this general time period, see pp. 326 ff.; cf. also Appendix C, no. 7 for a third century inscription found near Peratia which marked the grave of some Epirote, perhaps a soldier from the garrison which assured Epirote control of the Plagia Peninsula.

[59] Plut. Arat. 50.7-8: ὁ δ' Ἄρατος ἐπὶ πολὺ μὲν ἡσύχαζε, δεομένου δὲ τοῦ Φιλίππου τὸ φαινόμενον λέγειν, πολλὰ μὲν εἶπεν ὦ Φίλιππε Κρητῶν ὄρη καὶ μεγάλα, πολλαὶ δὲ Βοιωτῶν ὄψραι καὶ Φωκέων ἐκπεφύκασι τῆς γῆς· εἰσὶ δέ που πολλοὶ καὶ τῆς Ἀκαρνάνων τοῦτο μὲν χερσαῖοι, τοῦτο δ' ἕναλοι τόποι, θαυμαστὰς ὀχυρότητας ἔχοντες. ἀλλ' οὐδένα τούτων κατείληφας, καὶ πάντες ἑκουσίως σοι ποιοῦσι τὸ προστασσόμενον.

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CHAPTER IX

The Leukas Canal Area (Cf. Figs. 34 and 35)

Useful Maps and Charts: 2; 3; 5; 6; 13; 15; 17; Dörpfeld (1927 : II, Tafeln 6 and 20); Philippson and Kirsten (1958 : 692)

A narrow, shallow, 6 km long stretch of water separates the island of Leukas from the northwest shore of the Plagia Peninsula (Pl. 24.C). These shallows extend from the northern sand spit past both the modern and ancient sites of Leukas and end at the South Mole (also called the Korinthian Mole on many maps and charts).

The history of this area is closely tied to its topography. If the shallows were navigable, a safe shortcut existed for those sailing along this coast,[1] and a lucrative site existed for the growth of a city with a twofold economic base--agriculture and mercantile trade. We should, therefore, expect to see two constant factors at play in the historical development of any city founded here: 1) the assertion of its control (either directly or through allies) over the approaches to this strait and its two shores, and 2) the maintenance of a navigable channel through the shallows. The inordinate number of fortified positions here attest to the verity of the first factor.[2] It is the second factor which is more difficult to document. But in order to appreciate the problems involved, we must first discuss the remains of the South Mole and the evidence provided here for change in sea level.

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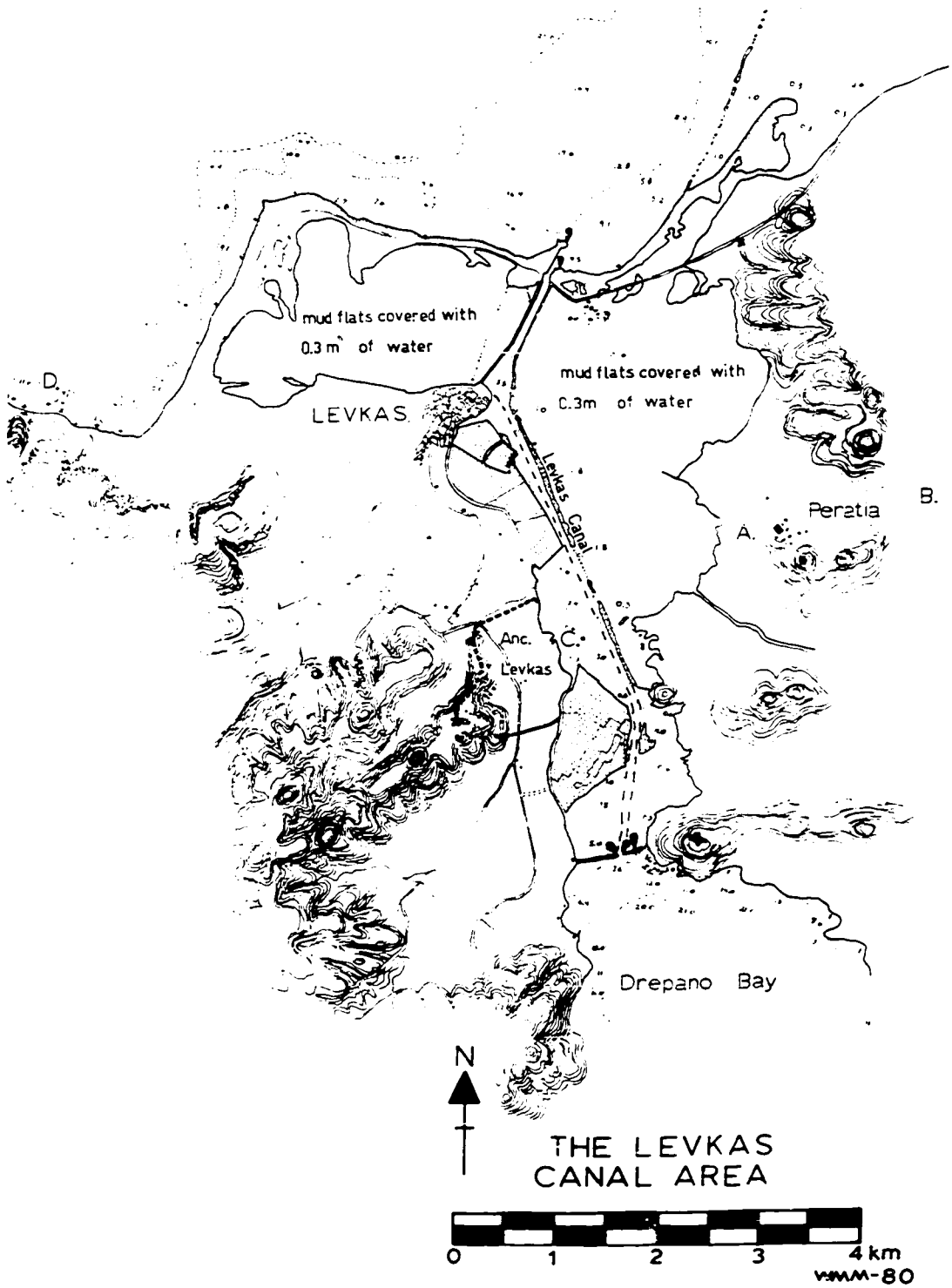

Fig. 34

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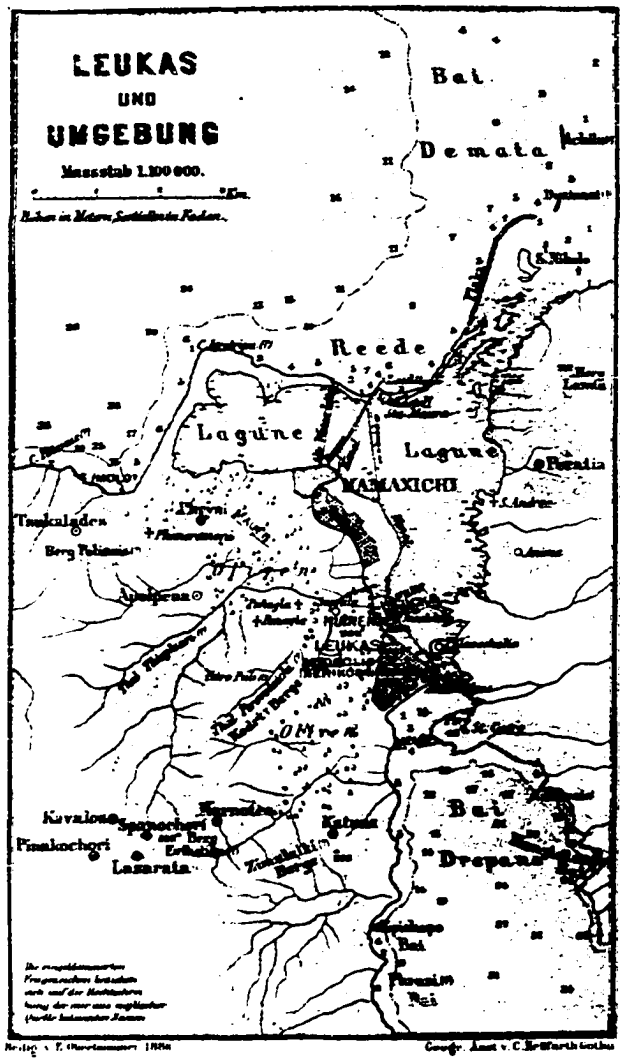

Fig. 35

A. The South Mole (Fig. 3, site 21; Fig. 36)

The existence of a submerged bank running from island to mainland must have been known to any who used Port Dhrepano, and it is curious that Leake does not mention it as a candidate for the Korinthian harbor

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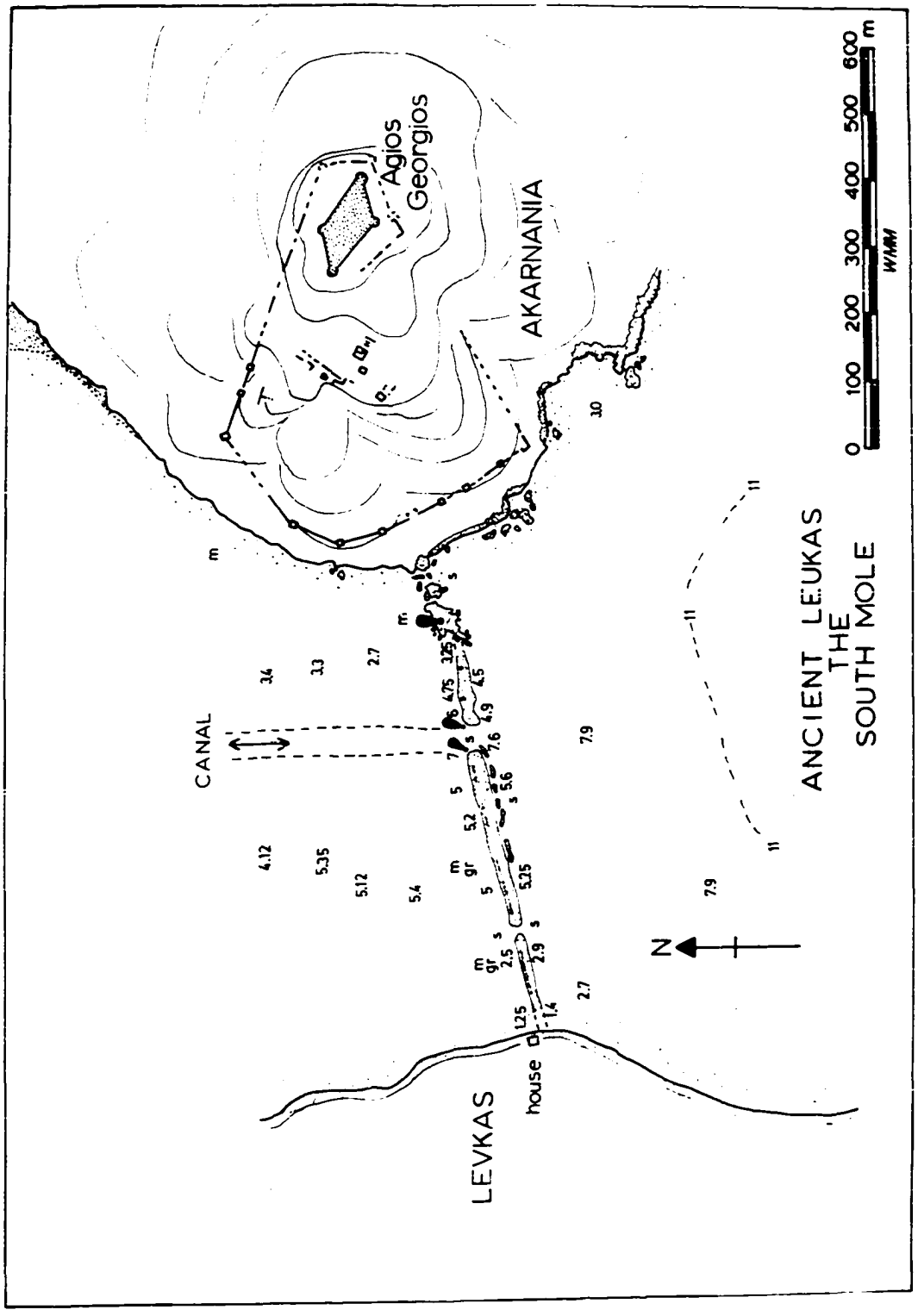

Fig. 36

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mole.[3] The first to do so was apparently Captain W.H. Smyth in a chart tentatively assigned to 1819.[4] The mole is mentioned by Captain Mansell who surveyed the canal in 1866, and accordingly, is mentioned in the first edition of the Mediterranean Pilot.[5] Oberhummer searched for this mole, but could not verify its existence.[6] But by 1904, the existence of an ancient mole here was generally accepted as fact. This acceptance was presumably due to observations made when the modern canal was first dredged in 1902.[7] The opportunity to examine the lagoon silts to a depth of 5 m sparked interest in the canal area and in the succeeding years, scholars debated the implications of what was (or was not) found.

Phokion Negris was the first to explore the implications of the submerged mole, yet his observations (as were others', later) were limited by having been made from a boat without the aid of any device to look under the water.[8] He therefore reported the depth of the mole as a general 2.5 m and computed the rise in sea level as at least 3.5 m. Since the mole was constructed to protect the southern entrance of the canal cut by the Korinthians, he argued it must date to the same time period, that is, about 600 B.C.[9]

Walther von Marées carried out a full geological survey of the canal area for Dörpfeld in 1905 and found that the mole did not possess an even surface; its blocks had been knocked apart by the waves. He argued that since no in situ blocks existed, one could not exactly determine what its true depth was and thus, could not arrive at a precise value for the rise in sea level on the evidence of this mole alone.[10] V. Marées noted the entrance width as 80 m and remarked that although

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the western arm of the mole appears to stop 80-100 m from the Leukas shore, it probably existed under the gravel beach and originally stretched from shore to shore.[11]

The primary question approached by the scholars of this era was the so-called "Ithaka-Frage," and the mole was examined only to provide information concerning the "Inselnatur" of Leukas.[12] Thus, no in-depth account of the mole ever appeared and no concrete evidence was ever produced for dating the structure other than its obvious association with the ancient site of Leukas.[13] I therefore undertook to examine this mole in detail and the resulting observations are the fruit of more than 17 hours of work in the water.

The Present State of the Remains. As can be seen from Fig. 36 (cf. also Pl. 24.A), the mole stretches from the small islet called Volios near the Akarnanian shore to a small white house on the opposite shore of Leukas. The mole is composed of two sections, the eastern arm being the shorter (133 m from its western end to the islet), the western arm the longer (424 m from its eastern end to the shore). A gap of approximately 35 m exists between the two sections.[14] Here, the bottom is sandy and about 7.6 m deep.

In order to determine the overall shape of so large a structure, I took a very rough depth profile of the mole approximately every 10 m. To do this, I recorded the depth of the bottom on the north side of the mole, the depth of the mole itself and the depth of the bottom on the south side of the mole. Wherever possible, I tried to measure the depth of the mole's surface from in situ paving slabs; where none existed, the

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depth from the shallowest point was measured.[15] At every point where the width of the mole noticeably changed, I measured the total width of the mole (i.e., not the width of its surface) from its deepest extent on the south to the corresponding point on the north. The resultant measurements are listed below; explanatory comments are denoted by an asterisk (*) and appear at the end of the list. Mole surface depths which are underlined are from paving slabs definitely in situ; those underlined with a broken line represent depths taken from paving slabs possibly in situ. Vertical lines in the distance column denote the existence of paving slabs in a line.

The Eastern Section: Nisos Volios to the Channel

Distance from Nisos Volios	Depth on the north	Depth of mole surface	Depth on the south	Width of mole
25 m	3.0 m	1.9 m	2.1 m	c. 11 m
35	3.25	1.9	2.9	--
45 *	4.0	2.25	3.6	--
53	4.25	1.9	3.75	c. 17
65	4.6	2.4	4.25	c. 16
75	4.75	2.5	4.5	--
83 *	4.6	2.6	4.6	c. 16
95	5.0	2.5	4.75	c. 18
105	5.5	2.6	4.6	--
113	6.0	2.9	4.6	--
123 *	6.5	3.0	4.9	c. 20
133	7.6	--	7.6	--

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The Western Section: The Channel to the Leukadian Shore

Distance from channel	Depth on the north	Depth of mole surface	Depth on the south	Width of mole
0 m	7.6 m	--	7.6 m	--
5	7.0	3.75	7.6	--
10	6.9	3.4	5.6	19
20	6.5	2.9	5.4	--
30	6.2	2.75	5.4	26
40	5.9	2.4	5.0	--
50	5.2	2.7 ; 2.4	5.4	--
60	5.2	2.7 ; 2.2	5.6	25-26
70	5.4	2.5	5.8	--
80 *	5.1	2.25	6.1	--
90 *	5.1	2.1	5.4	--
100 *	5.2	2.7 - 2.8	5.4	--
110 *	5.0	2.7 - 2.8	5.6	--
120	5.0	2.1	5.7	--
130 *	4.9	2.6	5.5	--
140	5.05	2.6 ; 2.1	5.3	26
150	4.9	2.45 ; 2.2	5.25	--
160 *	5.0	2.5	5.1	--
170 *	5.0	3.0 ; 2.2	5.2	--
180 *	5.0	2.6	5.0	c. 19-20
190	5.0	2.6	5.0	--
200 *	5.0	2.6 ; 1.9	5.25	--
210	4.8	2.2	5.5	--
220 *	4.9	3.0 ; 2.05	5.25	c. 19-20
230	4.75	2.25	5.0	20
240	4.7	1.9	4.75	18
250	4.0	1.75	4.4	18
260 *	4.1	3.0	4.0	17 (?)
270 *	3.6	2.8	3.65	--
280	3.25	2.6	3.25	--
290 *	2.85	2.65	3.0	--
300	2.5	2.0	2.9	--
310 *	2.25	1.9	2.75	--
320 *	2.2	1.8	2.9	--
330 *	2.25	1.75	2.65	--
340	2.2	1.6	2.5	10.5
350	2.0	1.8	2.6	9
360 *	1.8	1.65	2.3	12.5 (?)
370 *	--	--	--	(?)
380 *	--	--	--	(?)
390 *	1.25	1.0 - 1.2	1.4	(?)
400 *	--	--	--	(?)
410 *	--	--	--	(?)
420 *	--	--	--	(?)

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Distance from channel	Depth on the north	Depth of mole surface	Depth on the south	Width of mole
424 m	--	--	--	(?)

Comments

Eastern Section

45 m; 83 m: On the north [illegible] the mole are two long stones with pierced ends which perhaps once served as mooring bollards. The holes, however, are very close to the ends of the stones and would not have provided excessively strong mooring points. Nevertheless, both stones are identical in shape and strikingly different from any of the ones around them.

123 m: The foundation of the eastern channel marker mentioned in n. 14 is located here. There are three large blocks composed of small stones and cement which rise to within 1.25 m of the surface; the altar-like white stone marker of the nineteenth century lies tumbled on its side in 4 m of water to the south of its foundation. The channel is now delimited by lighted buoys.

Western Section

80 m: A line of paving slabs begins here, but they are not *in situ*, having been somewhat disturbed. My measurement is from the general surface level of the mole platform (i.e., not from the paving slabs).

90 m: The depth measurement of the mole's surface was taken from blocks possibly *in situ* which are set on top of the line of slabs continuing to the 110 m distance.

100, 110 m: Boulders along the south face of the mole are slightly higher here than the *in situ* paved surface. These boulders are 2.5-2.6 m below the surface.

130 m: The mole's surface here is roughly level.

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160 m: A few detached blocks which are possibly in situ, line up with a long line of blocks commencing at the 170 m distance.

170 m: The in situ line of blocks is slightly tilted; the depth measurement was taken from the approximate axis of the tilt; 3.0 m is the depth of the first (lower) course, 2.2 m from the second (upper) course.

160-180 m: In this area are an inordinately large number of rooftile fragments and amphora body sherds. There are no foundations visible of any structure here, so the amphoras and rooftiles were probably part of a cargo shipment.[16]

200 m: 2.6 m is the depth of the first course of blocks and 1.9 m the depth of the second course. These blocks appear to be in situ, but do not exactly overlie each other.

220 m: 3.0 denotes the first course.

260-270 m: A swath is cut across the mole here; the width is, therefore, difficult to determine with any accuracy.

290 m: The depth measurement of the mole's surface is taken from a rock, not in situ.

310-330 m: Although a line of paving slabs is detectable, the general surface of the mole is badly broken up into a jumble of blocks and rocks.

360-424 m: The mole is so badly preserved here that it is impossible to determine its width accurately.

General Observations. This is clearly the main harbor mole of the city of Leukas. Its original function was not only that of a protective mole, but also that of a loading pier. The large amount of amphora fragments scattered over the mole (see Appendix B, nos. 45-51) and the well aligned paving slabs of the western arm make these conclusions unavoidable.

As a protective mole, this structure was constructed as one would

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expect: a large substructure of rubble was built up from the sea floor, leveled and topped with (in this case) two courses of rectangular paving slabs. For extra strength against the force of the waves, these long, rectangular blocks were aligned with their long sides parallel to the shore. The blocks themselves are of varying dimensions with no particular average size predominating. Various blocks measure 1.3 m X 0.7 m, 1.4 m X 0.8 m, 1.5 m X 1.4 m, and one top course block measured 1.25 m X 0.65 m X 0.6 m. On the north side of the western arm (before the 160-180 m section) there are a few very large slabs, approximately 2.0 m X 1.6 m with quite flat upper surfaces. At the line of blocks between 80 and 110 m, the average width is 0.75 m and the lengths vary between 1.5 and 2.0 m. The mole is fairly massive, being generally more than 15 m wide at its base, which would have been necessary for two reasons. As the water depth increases, the mole width must also increase at its base if an equal width at the surface is to be maintained. For this reason, the widths of the mole which were taken near the channel (i.e., the cut between the two sections) are much greater than those taken closer to the shore where the water is not so deep. Judging from the widths measured at the eastern and western extremities of the mole, the original surface was probably 8-10 m wide. The mole's massiveness would also have been necessary to stop the heavy chop that blows in with a strong south wind. Considering that the strongest winds generally blow from the southern quadrant at Leukas, this mole is absolutely necessary for the creation of any port south of the city.[17]

Lehmann-Hartleben's "Katalog" entry concerning Leukas is the

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lengthiest account written of this harbor which deals with the harbor area as a haven and not simply as evidence for the "Inselnatur" of Leukas.[18] Since my study of the mole introduces new evidence which seriously affects his conclusions, we should now turn to a summary of his remarks (page numbers in parentheses denote pages in Lehmann-Hartleben's work).

After a brief review of the literature concerning the geological nature of the Korinthian canal, Lehman-Hartleben follows the arguments of Partsch and v. Marées in placing the original isthmus (see below) north of the ancient city (pp. 263-64). He then briefly examines the evidence we have for the navigability of the canal cut through this isthmus and concludes that it was always navigable, but only of marginal utility for large ships (pp. 264-65). According to him, the harbor south of the city is naturally protected from the wind, and therefore, the South Mole was not built to act as a protective breakwater (p. 265). The mole was also not intended to act as a military defensive work because it is completely unconnected with the city circuit (p. 265). He therefore concludes that the South Mole was constructed to keep the harbor from silting up and that it was only constructed after this process was recognized, probably in the third century (pp. 265-67).

A priori there are good reasons for doubting these conclusions. As noted earlier, the South Mole is essential to the construction of any harbor south of the city. And since the major influx of silt comes from the hills surrounding the canal area (see n. 66) and is not brought in by sea currents from the south, the mole essentially acts as a silt

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trap, not a silt barrier. If the mole was not constructed from shore to shore to keep out the silt (as Lehmann-Hartleben argues), then its purpose was to create a large protected anchoring area and a loading dock for goods destined for the city as well as its peraia on the Akarnanian shore. Thus, the reason for assigning the mole to the third century vanishes. My observation of fifth century Korinthian amphora fragments along the western arm of this mole confirms the validity of these objections to Lehmann-Hartleben's observations.[19]

On Lehmann-Hartleben's own evidence, the harbor at Leukas conforms perfectly with other examples of archaic harbor installations.[20] The most telling feature is its placement outside the defensive fortifications of the city, and it is therefore similar to archaic harbors at Delos, Eretria, Histiaia, Aigina, Kenchreai and Lechaion.[21] Lehmann-Hartleben further asserts that the first example of a harbor included within a city's defenses was not built until the latter half of the sixth century by Polykrates on Samos.[22] There can be no objection, therefore, to dating the construction of this mole to the period of, or immediately following, the settlement of the city in the late seventh century.

Since the harbor dates at least as early as the fifth century, and probably dates to the first generation of the city's settlement, something can be said about the Korinthian purpose for settling this site, or at least the expectations for the settlement once it had been successfully founded. The size of the mole and the amount of energy that went into its construction are considerable, and the inference that the

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Leukas Canal was intended to serve as a major shipping artery is unavoidable. As the city which controlled this passage, Leukas must have been considered an important point along the coastal route to the west. Whenever the canal was cut and the mole built, Leukas was obviously intended to serve as an important regional trading center.[23] The size of the mole, particularly its 8-10 m width, implies this; its more than 600 m length favorably compares with the archaic moles at Delos (280 m long, 4-5 m wide, in 2-3 m of water), Eretria (600-700 m long with 20 m of water at its end), Eleusis on Thera (360 m long south mole, 110 m long north mole) and Kenchreai (200 m long). Only the south mole at Samos (370 m long, but in 40-60 fathoms of water at its end = 73-110 m!) and the mole at Histiaia (c. 900 m long) are demonstrably more massive.[24]

In opposition to this view, Lehmann-Hartleben argues that the Leukas Canal was too shallow for large trading vessels and implies that the canal did not live up to its early expectations as a shipping lane because of this fact.[25] But unless we want to interpret the massive South Mole at Leukas as a white elephant (which makes little sense considering its lengthy period of use) we must admit at least that it partially fulfilled the purpose for which it was designed. And that purpose was twofold: to serve as the commercial dock of the city and to provide a large protected anchorage for coasters and local trading vessels not wishing to round the island (no doubt for a harbor fee). These coasting vessels were, as a rule, smaller than ocean-going freighters (as they are today) so although Lehmann-Hartleben's observation may be correct, it is not applicable to the types of vessels employing this canal.[26] It is true

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that natural forces constantly choked the canal with sand and silt, yet the brief glimpses we get from our sources showing the city's reaction to this process are instructive. Whenever peace and the city's resources allowed, the strait was dredged and the canal reopened; it was critical for the prosperity of the city (see below).

Such a harbor as this fits well into the archaic period, but it is somewhat surprising that no attempt seems to have been made in later times to include it within the city circuit. A brief glance at Fig. 34 shows that the city is not very far away. Nevertheless, we can infer from Thucydides' account of the siege of Leukas in 426 that the harbor was abandoned to the enemy since we are told the people of Leukas watched their lands being ravaged both on the island (outside their walls) and across on the Akarnanian shore.[27] We are also told that the Akarnanians were hoping to starve the city into submission by means of a circumvallation, thus implying that the city was cut off from the sea.[28] If this was the case, what became of their small fleet of triremes?[29] If the ships were captured by the Athenian and allied force, it might explain why we hear nothing about Leukadian ships for the next 11 years, yet such an argument from silence can never be conclusive, and we might have expected Thucydides to have mentioned the capture of 10 or more ships.[30] Nevertheless, if there was a protected "war harbor," no writer ever mentions its existence. Livy's clear account of the city's setting (33.17) describes an isthmus and a stretch of very shallow water in front of the town, but no harbor; accordingly, there is no indication at all today that a harbor once existed within the walls along the canal.

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The only possible alternative would be to restore some sort of walled harbor to the north of the city in the area now occupied by the northern lagoon. Partsch believed some remains of walls in this lagoon pertained to such a harbor and he also noted a large wall of polygonal blocks (now destroyed) which may have once connected the city to this area.[31] Whether this was a "long wall" as Partsch suggested, or a diateichisma designed to hinder attacks from the north and having nothing to do with a northern harbor as Lehmann-Hartleben suggested is at present impossible to determine.[32] It is strange however, that no convincing candidate for a war harbor has ever been located.

B. Evidence from the South Mole for Change in Sea Level

V. Marées reported that the surface of the mole was not preserved and his pronouncement has since been accepted as fact.[33] Fortunately, my researches proved this not to be the case. It is true that the surface of the mole has been violently disturbed, yet the western arm exhibits long stretches of in situ paving slabs.

Originally, the surfaces of both sections must have been completely paved and perhaps provided with a sea wall along the southern edge. Large piles of boulders, paving slabs and small stones now lie along the southern exterior of the western section for about 170 m from its eastern end (cf. Fig. 36). Considering that the in situ paving slabs mostly line up along the northern side of the mole, it seems likely that those now lying on the bottom to the south were dropped when the upper surface of the mole was robbed out for building material. No natural force

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would have caused these blocks to have fallen along the outer face of the mole.[34] Only man could have put them there. Since this is the case, the entire surface may have been robbed from the eastern arm and all but a broken line of slabs has been removed from the western section. Enough slabs remain, however, to provide a good indication of the original depth of the mole.

If all the depths of *in situ* slabs are compared, it will be seen that they cluster into two groups, one with an average depth of 2.74 m, the other with an average depth of 1.89 m.[35] Since two distinct courses can be seen *in situ* at a few places on the western arm (at the 170 m, 200 m and 220 m distances), it is not surprising that the depth values for the *in situ* blocks should fall into two groups. It would be faulty, however, to accept the two values thus derived without qualification. Since Leukas has had a high frequency of seismic disturbances over (at least) the past 450 years,[36] even these apparently *in situ* blocks may have been slightly displaced. This explains the fact that depths from the same group (i.e., from the same course) differ by as much as 0.6 m.[37] It is safest to assume that the blocks have been randomly dislocated up and down and, therefore, introduce only averaged values accompanied by an error factor of 0.3 m (the average value of dislocation for two blocks originally of the same course, but now at levels differing by 0.6 m). Keeping this in mind, we see that the depth of the first course is 2.74 ± 0.3 m, and that of the second is 1.89 ± 0.3 m; the latter depth represents the original surface of the mole.

If we utilize the same reasoning employed for the mole near Pogonia, this example yields a minimum rise in sea level value of 2.6 m [(1.89 -

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0.3) + 1.0]. The maximum rise in sea level indicated here would be accordingly 4.2 m [(1.89 + 0.3) + 2.0]. The average of these two values gives us the average rise in sea level indicated by this mole: 3.4 ± 0.8 m. When compared with the value indicated by the mole at Palairos, this mole is seen to be somewhat deeper. Either this mole was designed to stand closer to the level of the sea, or it was built at an earlier time when the sea level was about 0.5 m lower. An examination of the pottery from this mole seems to support the latter alternative.

The Use Period of the South Mole and the Implications for Rise in Sea Level. Scattered along the length of both sections of the mole are numerous fragments of amphoras. As one might expect, the greatest concentration of fragments occurs along the western arm. The majority of the pieces can be seen wedged between the rocks of the substructure along the north and south margins of the mole. This is where one would expect to find fragments of vessels which had been broken in the process of loading and unloading cargo.[38]

The few loose pieces of pottery I managed to record cover an amazingly long span of time--from the fifth century B.C. to the fourth to sixth centuries A.C.[39] The pottery evidence does not negate the possibility that the mole may have been built as early as the founding of the city in the late seventh century. One can also be reasonably certain that both sections of the mole existed by the time of the Peloponnesian War.[40] This fact is in perfect agreement with a rising sea level curve and implies that the sea level was somewhat lower than it was in the fourth to third centuries. And the fact that the mole was functional

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well into the Christian era seems to imply that the rate of the rise in sea level slowed after the fourth century, and that thereafter, the sea level remained generally unchanged until the fourth to sixth centuries A.C. This interpretation agrees with the remains at the dock in Mytikas Bay and implies that the actual submersion of the South Mole occurred sometime shortly after the sixth century A.C. Since that time, the sea level has risen an additional 1.7-1.9 m relative to the land (i.e., the present depth of these submerged structures).[41]

One final observation should be made. The average depth of the eastern section is 2.4 m, 0.5 m deeper than its western counterpart. A whole host of possible explanations might be concocted to account for this difference in depth. But before we open a can of worms that does not need opening, let us examine the depth values of the western section which derive from the surface of the mole and not from in situ (or possibly in situ) blocks. I am not being arbitrary; if for some reason, all the paving slabs had been removed from the western arm, these would have been the depth values I would have used to determine the present average depth of the mole. The average value for all the general measurements is 2.3 m and when the obvious extreme values are deleted (the 3.75 and 3.4 m depths near the canal end of the mole, and all the values equal to or less than the known top course--1.9 m) the resultant average is 2.45 m. From this it is apparent that the general average level of both arms of the South Mole (disregarding the paving slabs) is essentially the same. We can thus restore a paved surface on the eastern arm similar in construction to that of the western arm.[42] If

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my reasoning is valid, this mole would seem to indicate that there has been no noticeable differential rate of subsidence between the two shores of the Leukas Canal since the period of this mole's construction. And although the equal levels of the two sections of the mole do not prove that both arms were built at the same time, the evidence is not inconsistent with this possibility.

C. The "Isthmos" and the Navigability of the Canal

According to a small handful of ancient sources, Leukas was originally joined to the mainland by an isthmus. And according to an equally small number of geographers and geologists, this isthmus never existed and the Leukas Canal area was always more or less as it appears today, an island separated from the mainland by a fordable strait.[43] But despite these modern pronouncements, the matter has not been laid to rest. Dörpfeld and his geologist v. Seidlitz, the major proponents of the modern theory (with Partsch and v. Marées), looked for a hard, rocky spine stretching across the strait from mainland to island. And when the dredge of 1902 failed to locate one, these men concluded that an isthmus never existed next to the city, but rather, was located to the north, visible today as the northern sand spit. They further maintained that during the Bronze Age this sand spit had not yet been formed and that Leukas was separated from the mainland by a shallow, yet open strait. By the time the Korinthians arrived to settle the site, the northern sand spit had formed and they cut their canal through this "isthmos."

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My objections to this view as concern the historical period are voiced below. It is more difficult however (and perhaps impossible), to determine the nature of this strait during the Bronze Age without knowing how much lower the Bronze Age sea level was, and the nature of the strait's bottom during this period. The ancient opinion concerning this area is unanimous and is expressed in the interpretation of Homer's phrase ἀκτὴ ἠπείροιο.[44] And although Strabo 10.2.8 flatly informs us that the phrase meant ἀκτὴ Ἀκαρνανίας and referred to Leukas, his sources for the Bronze Age were certainly no better than ours, and probably originated from local lore current at Leukas in the Augustan Age.[45]

We do have one indicator that the canal may have been unnavigable during the Bronze Age but the evidence is not conclusive. Yet, if I am correct, it would help to explain the curious lack of Bronze Age settlement sites on the Akarnanian coast northwest of Astakos. The major published examination of this area was written by S. Benton in the 1930's and the site distribution map she presented with this study gives a visual picture which is interesting.[46] Bronze Age sites occur on all the major offshore islands--Zakynthos, Kephallenia, Ithaka and Leukas, and on two of the smaller inner islands--Meganisi and Kalamos. The Kalamos site is of dubious distinction however; it is listed as a Bronze Age site on the map, but in her text she says: "On the other side of the small bay there was polished hand-made pottery among the stones of a wall, and levigated sherds which Mr Heurtley thinks may be Neolithic, belonging to a vase with sharply everted neck."[47] The only

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mainland site she lists north of Astakos is at Kechropoula, but her designation rests on the report that Mykenaian pottery was found there and a non-painted sherd which she believes is from a stirrup jar.[48] I remain unconvinced in the light of such evidence.

My own researches turned up no evidence at all of Bronze Age habitation northwest of Astakos. As stated above, I find this curious and believe it may have been the natural result of the strait's unnavigability. When the canal is blocked, all the mainland between Astakos and Leukas is situated in a cul-de-sac, the natural sailing route shifts offshore to the islands and it is here, among the islands, that regular intercourse by sea would have taken place most readily. The unequal distribution of sites between the offshore islands and the mainland coast might indicate that this was the case during the Bronze Age.[49]

When we move into the historical period, our evidence becomes more concrete. It is a well known fact that by the time of the Peloponnesian War, the passage cut by the Korinthians in the late seventh century (or sometime thereafter) was unnavigable. In 427 and 425, Thucydides (3.81.1; 4.8.2) reports that warships were "dragged over the isthmus." That this was done by the Peloponnesians to avoid enemy detection and was successful on both occasions implies that the action was very unexpected; the canal must have been badly choked.[50]

At some point within the next 100 years, the canal was redredged. It is alluded to in the Periplus of Ps.-Skylax (34) which seems to have been written no later than 348/7:[51] ... αὕτη [Leukas] δ' ἐστὶ νῦν νῆσος τὸν ἰσθμὸν ἀποτεταφρευμένη. Oberhummer's view that this does not repre-

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sent true fourth century conditions because the author was slavishly relying upon an older source is unconvincing.[52] Since Oberhummer believed the canal was silted up in 218, he was apparently bothered by the cyclical open, then closed nature of the channel.[53] There is no reason why this constant silting process should be bothersome. Two silting factors operate on this canal area and either one could easily choke off the navigation channel in a matter of years.[54] Furthermore, the periplus as a literary form is the ancient equivalent of sailing directions and it makes little sense for one to compile out of date sailing directions.[55]

Sometime before 348/7, the shipping canal was reopened and pace Oberhummer, it was still deep enough in 218 to allow the passage of Philip's warships.[56] But by 197 it had apparently silted up again.[57] We are told nothing directly about the canal for almost a century and a half, until Cicero sailed through the canal on a merchant coaster in September, 50 B.C.[58] That he did not utilize the canal on his outbound trip in 51 B.C. was due to the nature of the winds in this area rather than the navigability of the channel.[59] It is tempting to date the renewal of the channel to the years immediately following 167 when Leukas was "freed," but this is only a guess.[60]

In the Augustan period, the canal seems to have been barely navigable; Livy (33.17), Strabo (1.3.18; 10.2.8) and Ovid (Met. 15.289 f.) attest to this fact. From Hyginus, the librarian and freedman of Augustus, we learn that although it may have been possible to get through the canal, it was not advisable. Small craft called πόντωνες

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pulled freighters through the canal area, not only providing the locomotive power for ships becalmed or faced with unfavorable light winds, but also acting as local pilots for those not knowing the channel.[61] And accordingly, sometime during the first century A.C., the canal once again silted up. Pliny describes the sea route to the city of Leukas as rounding the island and approaching from the south. He also describes the sandbar which choked the strait.[62] That this was a shallow sandbar and not a dry land bridge is implied by him in another passage.[63] A reference in Arrian's Indica (42.2 f.) to the channel markers employed in the canal area to mark the passageway confirms that the channel was navigable for some boats in the mid-second century A.C.[64] This process of dredging and silting apparently continued through the Roman period if the fourth to sixth century pottery found on the South Mole is any indication of mercantile traffic through the strait. Perhaps the Tabula Peutingeriana's "Perdioricto" implies that there was still a canal to be crossed in the fourth century.[65]

The general impression gained from the above is that, if left alone, the natural tendency was for the canal to silt up.[66] In order to maintain a navigable shipping lane, the Leukadians had to dredge the canal frequently. It was first cut in the seventh century, was blocked by the 420's, was open in the mid-fourth century, again open in 218 but closed by 197; it was passable in the late Republican period, clogged sufficiently in the Augustan Age to require a local pilot,[67] and closed by the time of Pliny. By the mid-second century A.C. it was again navigable. These dates provide us with a mere outline of the process in-

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volved. We only possess a handful of testimonia and it is possible that the canal was marginally navigable when a single source implies that it was not. The use of the channel would then depend on the draft of the vessel, the weather and the expertise of the captain and crew; even the wishes of distinguished passengers no doubt played their part.[68] Nevertheless, the canal was probably "open and closed" much more frequently than these few sources indicate.[69]

The Nature of the Isthmus. The ancient sources are not in full agreement concerning the true nature of Leukas. At times, it is called an island, and at other times, a peninsula. In general, this distinction depends upon whether or not the isthmus which the ancients tell us connected the island to the mainland was pierced by a navigable canal.[70] The exact nature of this isthmus has been hotly debated since Dörpfeld first proposed his Ithaka-Leukas theory in 1900. For Dörpfeld and his followers, the isthmus mentioned by the ancient sources is to be found in the "Nehrung" or sand spit which forms the outer shore north of the present city of Leukas and stretches almost to the Akarnanian coast. And when Strabo, Ps.-Skylax and Pliny record that the Korinthian canal was cut through the isthmus, Dörpfeld et al. argue that they were referring to the gap which the current canal utilizes near the Venetian fortress called Santa Maura, or to the so-called "Stretti Canali," the gap between the northeast end of the sand spit and the Akarnanian shore.[71] Since sherds and tiles can be seen cemented in the beachrock formation called "the Plaka" which makes up the forward edge of this sand spit, Dörpfeld's geologist, v. Seidlitz, argues it has only re-

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cently formed and did not exist during the period of Homer's epic.[72]

This view would be attractive were it not for the clear contradictory evidence provided by our ancient sources. Thucydides (3.94.2) is the earliest author we have who directly mentions an isthmus, and he implies it is located next to the site of the ancient city. The impression left by Thucydides' account is strengthened by Livy (33.17.6-8; perhaps originally from Polybios' account), Strabo (10.2.8) and Pliny (HN 4.1.5) who also place the isthmus next to the city. Of the three, Livy's account is the most straight-forward:

> Leucadia nunc insula est, vadoso freto, quod perfossum manu est, ab Acarnania divisa; tum paeninsula erat, occidentis regione artis faucibus cohaerens Acarnaniae; quingentos ferme passus longae eae fauces erant; latae haud amplius centum viginti. In iis angustiis Leucas posita est, colli applicata verso in orientem et Acarnaniam; ima urbis plana sunt, iacentia ad mare, quo Leucadia ab Acarnania dividitur. Inde terra marique expugnabilis est; nam et vada sunt stagno similiora quam mari, et campus terrenus omnis operique facilis.

The ancient sources are clear and in agreement. The isthmus of the fifth to early second centuries was situated to the east of the ancient city. To argue otherwise involves the messy procedure of discrediting or "explaining" what our sources clearly say.[73]

Without doubt, the best objection to the existence of an isthmus opposite the city is the fact that the dredge of 1902 encountered nothing but silt to a depth of 6 m opposite the city; no isthmus was found.[74]

Already by the late first century B.C. however, the isthmus seems to have undergone a significant change in appearance. Strabo (10.2.8)

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says that the area which once was an isthmus (ὃς ἦν ποτὲ μὲν ἰσθμός) was in his day a πορθμός spanned by a bridge. A porthmos is not a dioryktos, it is a strait. The remains of the bridge locate its position exactly, opposite the ancient site of the city (see below). Pliny (HN 2.92.205) also describes the canal area as a strait and groups it with the great straits of the Greek world: Antirrion, the Hellespont and the Bosporos. If we keep this in mind, we must conclude that he is describing a submerged sandbar in HN 4.1.5: "... Leucadia ipsa paeninsula quondam Neritis appelata, opere accolarum abscisa continenti ac reddita ventorum flatu congeriem harenae adtumulantium, qui locus vocatur Dioryctos stadiorum longitudine trium." Ovid's offhand reference to this area also fits this pattern (Met. 15.289-90): "Leucada continuam veteres habuere coloni:/ nunc freta circueunt." And finally, there is the passage of Livy quoted above, which refers to the area where the isthmus once existed as a "vadosus fretus."

As the passage from Hyginus showed, it was considered dangerous, but possible, to sail between Leukas and the main.[75] Though he calls the area of difficulty the "Isthmus Leucadiensius," he is clearly referring to an area of shallows; the name "isthmus" lingered on after the true isthmus was gone.[76]

The isthmus of Thucydides' and Polybios' day was probably not much more than an elevated sandbar.[77] By the late first century B.C., all that remained of this isthmus was its name. Perhaps a slight rise in sea level had helped to hasten its end. Subsequent physical developments in this area can only be surmised and only the broad outlines are

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clear. As more gravel and sand moved into the strait area, the shallows expanded and the channel was marked with signs. At the same time, a few islands at the north end of the strait began to capture so much sand and gravel around them, that the individual sandbars thus created began to grow together into a sand spit.[78] As the sea level slowly rose, the sand spit grew upward and outward. Behind it, a lagoon formed which began to act as a settling basin for the marl silts washed into the sea from the surrounding hillsides and plains.[79] These silts kept pace with the rising sea level and, with no one to dredge the canal regularly, eventually obliterated all traces of a channel under a thick layer of mud. The increased concentration of marl silts in the water is thought by v. Seidlitz to have provided the bonding agent which formed the Plaka beachrock. This hardening into beachrock was underway well before 1500 A.C.[80]

In conclusion, I am in favor of the interpretation originally put forth by W. Goodisson and Oberhummer, well before the canal area was examined by Partsch and v. Seidlitz.[81] This interpretation accepts the clear evidence of our historical sources as valid and sees the northern sand spit and Plaka formation as a development of the Christian era. I personally believe that the isthmus was never very substantial nor permanent, and this is shown by its "disappearance" in the latter years of the first millenium B.C.

D. The Bridge (Cf. Fig. 34, at 'C'; cf. also Fig. 35)

Strabo twice mentions the existence of a bridge linking Leukas to Akarnania, and as related above, he locates this bridge where the isth-

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mus once existed.[82] As early as 1806, the remains of this bridge were identified by Leake with a ruined "Hellenic mole" leading northeastward from the site of the ancient city to the Akarnanian shore, opposite.[83] This ruinous bridge was noted by other travelers and appeared on all of the early surveys of the canal area.[84] The first attempt to reconstruct the nature of this bridge occurred after the dredging of the modern canal in 1902. Thanks to a dubious attempt by Phokion Negris to compute the change in sea level value indicated by this structure, we have the observations of the chief engineer Sakellaropoulos whose dredge cut through a portion of this bridge.[85]

According to Sakellaropoulos (via Negris), the dredge uncovered dressed rectangular blocks (1.2 m X 0.6 m X 0.6 m) in five places, approximately 3.0-3.5 m apart. It also uncovered true voussoir blocks off to the sides of the dressed blocks and a large quantity of rubble; neither the voussoir blocks nor the rubble had any traces of cement on them. The lowest remains occurred at a depth of 3.5 m. V. Marées examined two points along the line of this bridge and concluded that an exact reconstruction of the bridge was impossible to achieve, and that it was also impossible to determine the exact depth of the foundations of these two sections.[86]

Today, even the line of the bridge is largely invisible. It supposedly runs from the Leukas shore to the "Westturm" of v. Marées, a small fortress built on a spot of dry land called Agios Konstantinos (Fig. 34, at 'C'). From here, it ran northeast toward the Akarnanian shore where it met a paved road, now submerged, which runs parallel to the shore along the eastern margin of the strait.[87] The clear line of

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stones mentioned by Negris and Partsch to the west of the canal are not visible today; I even probed for them from a boat but could not locate them. No ancient blocks were visible anywhere in the water surrounding Agios Konstantinos, and the blocks that are there in the water seem to have once served as a sea wall to protect the foundations of the fort from the waves. Ancient blocks still exist on a small spot of dry land to the east of the present canal (the so-called "Östturm" of v. Marées; see n. 86). The blocks here measure approximately 1.6 m X 0.8 m and are arranged at places in lines. I attempted to follow the blocks to the east and found some, perhaps 30-40 m from the small island. They then either thinned out so I could not randomly locate them, or they stopped altogether. The blocks continue to the west of the island almost to the dike which forms the eastern margin of the canal. No blocks are visible running from the western margin of the canal toward Agios Konstantinos. A good air photo would help in determining the full extent of the remains.

Despite the poor state of preservation, these remains are surely of the bridge mentioned by Strabo and locate exactly where he believed the isthmus once joined the island of Leukas to the Akarnanian mainland. As such, these remains provide an important fixed point for the ancient topography of the canal area.[88]

E. The "Ancient Mole" near Agios Ioannis (Fig. 34, at 'D'; cf. also Fig. 35)

Useful Maps and Charts: 2; 4; Dörpfeld (1927 : II, Tafeln 6 and 20)

About 1 km west of where the northern sand spit joins to the Phryni

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plain is a submerged projection of rock. Since it has been labeled on a few charts as a possible ancient mole, I examined this area in the autumn of 1980 but found nothing to indicate that this submerged reef is man-made.

The projection is composed of a submerged conglomerate bedrock outcrop which extends from the shore for about 150-200 m. 100 m from shore, the general depth of this outcrop is between 1.0 m and 1.8 m. It is bordered by white sand on the north and by white beachrock on the east. To the west are scattered boulders which continue to a depth of 5-6 m, beyond which is white sand.

This outcrop is much too wide to have been a mole and as there is not a sherd of pottery anywhere in the area, it must be seen as a natural phenomenon. The depth on the western scatter of boulders within 100 m of the shore is less than 1.0 m and this fact probably caused the English cartographers to label it as a mole.

F. Leukas to Aktion: Topographical Remarks (Cf. Figs. 18 and 3)
Useful Maps and Charts: 17; 20; 21,T.4

The easiest way to go to Aktion from Leukas' harbor is by sea if the canal is functional. Given favorable winds, the trip would take three to four hours for a merchantman and no more than two hours for a trireme. With the canal blocked, the trip would involve sailing around Leukas and either waiting for a favorable southern quadrant wind to push the boat north to Aktion,[89] or a time consuming, often dangerous beat up the western coast of Leukas.[90] This journey could involve

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a number of days.

By land, the route runs along the eastern shore of the canal around the lower slopes of Mt. Lamia to present-day Agios Nikolaos and from there, northward to Aktion. The total distance from the bridge to the site of the temple at Aktion measures about 20 km. It can be walked in about four hours.

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Notes to Chapter IX

[1] See Appendix A, pp. 408-414.

[2] From north to south, there are the ruins of Fort Peki (called "Teki" on Oberhummer's map = Fig. 35), the Santa Maura fortification, the small fort called Ag. Konstantinos (labeled "Turm" on Oberhummer's map), the fortified outcrop of bedrock called Palaiochalia, Fort Alexandros and the fort called Ag. Georgios. It will be remembered that Ag. Georgios is the site of an earlier walled position (Nerikos?), Peratia is located at another (Dioryktos/Perdioricto?) and of course, there are the fortified ancient and modern sites of Leukas, the city.

[3] Although Leake does not mention this mole, he does note its existence on his roughly drawn map of the canal area (1835 : III,11).

[4] There are two versions of this chart; both are deposited with the Admiralty at Taunton, and both are allegedly from the personal papers of Captain Smyth. H 366 / Med. fol. 2 uses Italian notations and is surely derived from an earlier, unknown Italian or Venetian prototype.

[5] Captain Mansell's remarks appear on the last page of the Santa Maura entry of OD 257; Great Britain (1880 : 294).

[6] The fine print below the map presented as Fig. 35 (Oberhummer's map) reads: "Die eingeklammerten Fragezeichen beziehen sich auf die Rechtschreibung der nur aus englischer Quelle [sic] bekannten Namen." The mole has been noted with a question mark. See also Oberhummer (1887 : 8).

[7] Cf. Partsch (1907 : 271).

[8] The modern skin diver's mask and snorkel were not developed and made easily available to the public until after World War II. Although Negris (1904 : 354-60) does not explain his method of observation, his lack of precision makes it certain that he merely rowed out to the mole in a boat and measured its depth with a lead-line.

[9] Negris (1904 : 357-58).

[10] V. Marées (1907 : 12); v. Marées' remarks are quoted also in Partsch (1907 : 272).

[11] Partsch (1907 : 272-73).

[12] This is obviously true as concerns Partsch's observations (1907 : 273). For Dörpfeld's identification of Leukas as the Homeric Ithaka to be true, he had to prove the island status or "Inselnatur" of Leukas during the Homeric period. His observations of the Leukas Canal

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area are thus concerned with arguing away the existence of the isthmus described in detail by Livy (see p. 249). Partsch's article provides a good overview of the problem.

[13] As recently as 1958, E. Kirsten correctly observed that the age of the mole was unfortunately not known and that one could say no more about it except that it indicated the existence of a harbor there at some time. He also suggested that the harbor thus created was probably to be dated a good deal later than the original settlement of the city. See Philippson and Kirsten (1958 : 476-77).

[14] I measured this distance only indirectly by plotting the total lengths I recorded for each arm of the mole onto Chart no. 13 (scale = 1:4025) and measuring the resulting gap. If this 1904 survey is inaccurate, then my 35 m gap will also be inaccurate. V. Marées (1907 : 12) and Partsch (1907 : 272), who is probably following v. Marées' survey (see n. 10), report an 80 m gap but this is certainly too large. P. Gössler, Leukas-Ithaka, die Heimat des Odysseus (Stuttgart, 1904) 74, records the gap as 50 m, and it measures 35-40 m on Chart no. 15 (which relies on surveys independent of the one producing Chart no. 13). V. Marées and Partsch probably measured the distance from the last 2.5 m depth point of each arm where white stone markers had been placed in the nineteenth century to delimit the channel for mariners, whereas I measured the full length of each arm's substructure. These extended some 10 m beyond the now ruined foundations of the old markers. Buoys now mark the navigable limits of the gap. I am convinced, therefore, that my measurements are essentially correct.

[15] The in situ blocks generally provided the shallowest measurements, which makes sense if the mole was built up to a general level and then paved. For the exception, see p. 232 , remarks at 100, 110 m.

[16] Evidence from elsewhere indicates that tiles were a frequently shipped cargo; cf. the tile wreck recorded by Frost (1963 : 214-21) and the conclusion reached by Green (1973 : 164): "If we are recording a random sample of wrecks, then the evidence indicates that tiles were an important cargo ...."

[17] See Appendix A, Table 6 for the wind frequency data from Leukas. Lehmann-Hartleben (1923 : 265) makes the curious statement that these moles were not needed for protection against the wind. Presumably, he makes the faulty assumption that strong winds only come from the north, or he underestimates the effect of the south wind at Leukas which can be awesomely fierce.

[18] Lehmann-Hartleben (1923 : 263-67).

[19] Near the 160 m distance, I observed two mid-fifth century 'Corinthian B' amphora toes similar to the example found at Sterna (Appendix B, no. 37). As they were both concreted to the bottom in about 5 m of

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water, I was unable to remove them for proper recording. A possible fifth century amphora neck was also found on the eastern arm (Appendix B, no. 45).

[20] Cf. especially chapter III, "Die archaische Zeit," in Lehmann-Hartleben (1923 : 45-65).

[21] The appropriate pages of Lehman Hartleben's work (1923) are listed after the sites in question: Delos, 50-51; Eretria, 51-52; Histiaia, 52; Aigina, 52; Kenchreai, 52-53; Lechaion, 53-54.

[22] Lehmann-Hartleben (1923 : 55-56).

[23] This is also indicated by the early establishment of an active mint at Leukas; see Appendix F, pp. 464 ff.

[24] For Delos, Eretria, Histiaia and Kenchreai, see n. 21; for Samos, see n. 22; for Eleusis on Thera, see Lehmann-Hartleben (1923 : 58).

[25] Lehmann-Hartleben (1923 : 49).

[26] Cf. Casson (1971 : 337-38).

[27] Thuc. 3.94.2.

[28] Cf. Thuc. 3.94.2 where the verb ἀποτειχίζειν is used; but see also 3.95.2 where the process is described: κοινώσας δὲ τὴν ἐπίνοιαν τοῖς Ἀκαρνᾶσιν, ὡς οὐ προσεδέξαντο διὰ τῆς Λευκάδος τὴν οὐ περιτείχισιν .... Gomme (1956 : II,400) also views this action as a circumvallation.

[29] 10 Leukadian ships are mentioned as part of the allied force which Korinth led against Kerkyra in 433 (Thuc. 1.46.1). This is the highest total of Leukadian ships that we possess. The city is enumerated among those Peloponnesian states which provided ships (Thuc. 2.9.3) and Leukadian ships are mentioned directly on four subsequent occasions: Thuc. 2.91.2; 6.104.1; 7.7.1; and 8.106.3.

[30] See n. 29. In the twelfth year after the siege, two Leukadian ships appear as part of Gylippos' force (Thuc. 6.104.1).

[31] Partsch (1890 : 15).

[32] Lehmann-Hartleben (1923 : 267). This wall appears on Oberhummer's map (Fig. 35) with the legend "Mauer (?)." It can also be seen on v. Marées' survey of the canal area which appears in Dörpfeld (1927 : II, Tafel 6). Some blocks from this wall have apparently been reused in a garden wall running along the left side of the road leading from Leukas to Apolpena. The wall is located just outside the town limits of Leukas where the road branches inland (i.e., to the right) off

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the coast road which leads past the ancient site of Leukas.

[33] V. Marées (1907 : 12).

[34] The strongest waves come from the south, not from the north where the shallows of the canal area diminish their energy.

[35] Cf. the underlined values of the mole's depth profile on p. 231; these values and their resultant averages are listed below:
2.7, 2.5, 2.7-2.8, 2.7-2.8, 3.0, 2.6, 2.6, 3.0: average value = 2.74;
2.2, 1.9, 2.05, 1.9, 1.75, 1.6, 1.8: average value = 1.89.

[36] Great Britain (1944 : I,4-5 and fig. 5, p. 8).

[37] Cf. the remarks for the western section at the 170 m distance (p. 233); this uniform tilting is probably the result of seismic action rather than sea action. Unless there was a soluble substratum underneath one side of these blocks that has been dissolved by the sea water, the general tendency of wave dislocation is for objects to be moved haphazardly, not uniformly as here.

[38] See pp. 169-70.

[39] See Appendix B, nos. 45-51.

[40] Because I was unable to recover the fifth century amphora fragments I spotted on the western arm, it is impossible to establish without question that this mole existed during the fifth century. Nevertheless, Professor C.G. Koehler has informed me that one example found on the eastern arm (Appendix B, no. 45) "may well date to the fifth or fourth century." This piece may show some influence from mid-fifth century 'Corinthian B' amphora types, although according to Professor Koehler, its fabric and the placement of its handles are not similar to Korinthian examples.

[41] The sea level rise curve computed by Negris (1904 : 360) is faulty because it assumes that the rise in sea level has been constant over time. Sea level rise is not easy to predict because it relies on numerous variables: 1) eustatic change in sea level, 2) tectonic uplift or downwarp of the coastal plain/sediment basin, 3) regional climatic changes, 4) cyclic storm track shift causing wave character change, 5) change in local supply of sediments to the coastal area, 6) sediment compaction along the coastal fringe, 7) tectonic lift or downwarp of eroding area, 8) deforestation and other vegetation cover changes; cf. Kraft et al. (1975 : 1192). For a more specific refutation of Negris' conclusions, see Partsch (1907 : 272).

[42] At first glance, it may seem inconsistent that the general level of the western mole is about 0.3 m higher than the level of the first (lowest) paving course. But it must be remembered that we are dealing

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with average values, and individual blocks can be moved above or below these averaged depths. I should also stress that my method of measuring these depths does not allow me to push these figures too far. The two different arms of the mole were measured on different days and the measuring times between the first and last measurement on the same day may have been as great as seven hours. During this time, the sea level (my reference point) may have moved up or down by about 0.1 m and the amount of chop could have adversely affected my judgement of the exact position of "sea level" at any one given time. Nevertheless, the 2.45 m value falls within the range of the first course if the 0.3 m error factor is kept in mind. I was not able to determine the thickness of the lower course because the blocks were either obscured by concretions or imbedded in the surface of the mole. It is not surprising, therefore, that the general level of the mole's surface is roughly equal in depth to the level of the lower course of paving slabs.

[43] These scholars have essentially embraced the conclusion of Leake, reached more than a century before (1835 : III,18-19). For a more complete treatment of this argument and my objections to it, see pp. 248 ff. with notes.

[44] Hom. Od. 24.377; for the ancient tradition concerning this matter, see n. 3, p. 219.

[45] Consider the source behind the following statement of Ovid (Met. 15. 289-90): "Leucadia continuam veteres habuere coloni:/ nunc freta circueunt." The "veteres coloni" who maintained that Leukas was once joined to the mainland could perhaps be translated into American slang as "old timers."

[46] Benton (1931-32 : 213-46; the map appears as Pl. 38). See also Leekley and Noyes (1975 : 1-8) for a brief synopsis of the archaeological work which has been conducted on the offshore islands, and p. 282 n. 11.

[47] Benton (1931-32 : 234).

[48] Benton (1931-32 : 240 and Fig. 19, no. 7, p. 238); see also p. 72, n. 20 of Benton's work where she refers to Mykenaian remains reported by M.S. Thompson (1912 : 133). Thompson does report that Mykenaian sherds were found at Palairos, but gives no reference: "Mycenaean sherds (LM III) have been found at Calydon, Koronta (Προϊστορικά (1907) 100 ff.) and Palairos, but further inland, at Stratos and Thermon, remains of a non-Mycenaean character occur." Dörpfeld (1927 : II, Pl. 79b) shows one of a number of bronze double axes found at Kechropoula, but this does not necessarily denote a Mykenaian settlement. Cf. Hammond (1967 : 393) who interprets these as relics left by migrating peoples moving toward central Greece and the Ionian Islands from the mainland.

[49] For a more complete discussion of the implication of such a

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settlement pattern, see pp. 277 ff.

[50] Both the verb ὑπερενέγκω and the noun ἰσθμός (used in both passages) imply that the ships were dragged over dry land. For the nature of this "isthmos," see pp. 248 ff. I am not convinced by the view that the ships were dragged across to save the time it would have taken them to pass through a narrow channel one-by-one; for this view, see Lehmann-Hartleben (1923 : 264-65).

[51] Unger (1874 : 29-45) rightly objects to Müller's dating of the work to 338-35 (1855 : XLIII-XLV), and demonstrates that it must have been published after the fall of Olynthos in 348, but before the defeat of the Phokian nation by Philip in 346. Naupaktos is mentioned as an Aitolian city and thus we have evidence for an Aitolian possession of this place earlier than the 338 date which Müller utilizes as his terminus post quem.

[52] Oberhummer (1887 : 11).

[53] Oberhummer does admit the possibility that the canal was renewed after the Peloponnesian War. And if this was the case, he argues, the canal was probably renewed in conjunction with the operation of the Athenian fleet under Timotheos and the entry of the Akarnanians into the Second Athenian Confederacy (375-71 B.C.); see Oberhummer (1887 : n. 1, p. 11; n. 4, p. 125). This view would be attractive were it not for the fact that such a project would have benefitted Leukas as much if not more than Akarnania. Leukas was openly hostile to Athens from the time she contributed ships to Mnasippos' fleet in 373 (Xen. Hell. 6.2.2), and no rapprochement is evident until the Leukadians and Athenians struck a treaty in 368 (Tod 134). It is difficult to see the Athenians helping to open the canal until at least 368, and by that time, the supply of Athenian cheap labor (the crews of her fleet; cf. Xen. Hell. 6.2.37) had long since returned home.

[54] See below, nn. 66 and 69.

[55] Oberhummer's views are probably influenced by Müller's statement (1855 : XLV) that the author of this periplus took his information from books concerning all areas except Greece, Makedonia and Thrace. This is a very arbitrary statement which Unger (1874 : 32) rightly disregards. Unger concludes (correctly I believe) that much of the author's information came from other sailors. And this would apply especially to geographical information. Sailors today keep abreast of new or discontinued port facilities and silted up channels and harbor entrances by talking with other sailors who have recent knowledge of these facts.

[56] Oberhummer (1887 : 8-9, 163 and n. 2). Polybios' words are clear (5.5.12): εὐτρεπισάμενος [Philip V] δὲ τὰ περὶ τὸν Διόρυκτον, καὶ ταύτῃ διακομίσας τὰς ναῦς, ἐποιεῖτο τὸν ἀπόπλουν κατὰ τὸν Ἀμβρακικὸν καλούμενον κόλπον. The verb διακομίζω is best construed as "to

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bring through" in this passage and is used elsewhere to denote passage through water; cf. Mauersberger (1961 : 483). Walbank (1967 : I, on 5.5.12) observed that Philip's fleet had no large vessels because he used this channel. It is true that Philip is known to have utilized the small λέμβος, and for this campaign, we are told that Philip's fleet was manned by soldiers trained how to row, a common practice when λέμβοι are used; cf. Casson (1971 : 126 and n. 104), and Polyb. 5.2.1-6, 11. Yet, when Polybios mentions a contingent of λέμβοι in conjunction with Philip's fleet, he distinguishes them separately from the rest of τὰς ναῦς; compare 5.4.3 with 5.2.4; 5.2.11 (τῶν πλοίων); 5.3.5; 5.5.12; etc. Furthermore, since the siege machinery Philip had with him must have been transported on ships larger than λέμβοι (Polyb. 5.4.6) and since this machinery was presumably still part of the fleet's baggage which was left under guard at Limnaia (Polyb. 5.6.5), Walbank's observation does not stand. The passage indicates only that the canal was navigable; it says nothing about this degree of navigability, i.e., the amount of silt in the channel, or the size of the ships that could use it.

[57] Livy 33.17.6 (197 B.C.): "Leucadia nunc insula est, vadoso freto perfossum manu est, ab Acarnania divisa; tum paeninsula erat, occidentis regione artis faucibus cohaerens Acarnaniae ...." For the interpretation of "nunc" and "tum," see Oberhummer (1887 : 9).

[58] Cic. Fam. 16.5.1; for the revision of the November date which appears on the letter, see Appendix A, p. 424 n. 47.

[59] Cic. Att. 5.9; see Appendix A, p. 413.

[60] See Leake (1835 : III,20) and Oberhummer (1887 : 9 and n. 2). Oberhummer argues from Livy 44.1.3 f. that the Roman fleet rounded Leukas in 169 and this action shows that the canal was clogged. I have demonstrated elsewhere that this is the normal sailing route taken when utilizing the prevailing northwest winds. This action, therefore, says nothing about the navigability of the channel; cf. Appendix A, p. 412. It is quite possible that the canal was navigable in 146 because we are told that the Roman general Mummius shipped plunder from the Peloponnessos to Akarnania and then from there to Rome (Polyb. 39.3.10).

[61] This extremely interesting bit of information comes from a chance grammatical excerpt of C. Julius Hyginus' commentary on the Propempticon Pollionis of Helvius Cinna (Keil, Gramm. Lat., I, 134): "ab Actio navigantes stadia (circiter) LX veniunt ad Isthmum Leucadiensium; ibi solent iteris minuendi causa remulco, quem Graece πάκτωνα dicunt, navem traducere. quaerunt etiam nonnulli quam ob rem a Corcura iubeat Action navigare, quod est e regione traductionis Leucadiensis, et rursus ab Actio circa insulam moneat ire, quam a Corcura rectum itiner ad Leucatam." The πάκτωνα or πάκτων is a small oared vessel which is mentioned in Egyptian papyri. The earliest reference we have to this type of boat shows it to be a small boat of woven branches. Later references indicate that πάκτωνες were also made of wood, close to

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20 feet long (6.1 m) with two oars and a steering oar. Some examples could apparently carry more than 10 tons of cargo. See Casson (1971 : 342 and nn. 69-70).

62 Pliny HN 4.1.5: "egressos sinu Ambracio in Ionium excipit Leucadium litus, promunturium Leucates, dein sinus et Leucadia ipsa paeninsula, quondam Neritis appellata, opere accolarum abscisa continenti ac reddita ventorum flatu congeriem harenae adtumulantium, qui locus vocatur Dioryctos stadiorum longitudine trium."

63 Pliny HN 2.92.205; see p. 250.

64 This is supported by Ptolemy's classification of Leukas as an island at about this same time (Geog. 3.14.12).

65 See p. 191 and n. 12 for this place and the nature of the source.

66 It has long been realized that sand and gravel are eroded from the island's western coast and are carried into the canal area by wave action and current; cf. Partsch (1907 : 270-71) and Bürchner (1925 : 2235). Local alluviation occurs in the canal basin itself and is responsible for the large amount of silt currently clogging the strait; cf. Partsch (1907 : 271). The extent of these silt deposits in antiquity, however, is difficult to determine.

67 These πάντωνες (see n. 61) were probably used even when the channel had been recently cleared because they provided the locomotive power through an area which experiences a high frequency of fluky winds and calms (cf. Appendix A, Table 6). For this reason they were no doubt used long before the Augustan period.

68 It is clear from the warning Cicero sent to Tiro not to entrust himself to any captain (Fam. 16.9) that Cicero was personally not the most intrepid of voyagers. He chose to forego the downwind trip around Leukas on his outward journey (Att. 5.9) and it is not unthinkable that he strongly advised his captain to take the safer route inside Leukas on the return voyage.

69 Cf. Dörpfeld (1927 : I,69) who reports that two dredgings were needed to keep the canal open from 1900 to 1925 (in 1914, more than 1000 m^3 of gravel were dredged out to clear the northern entrance). Cf. also the two sketches of v. Marées (1907 : 28) which show changes in the shoreline at the south end of the canal shortly after its dredging in 1902.

70 Strabo 10.2.8; Schol. in Od. 24.376; Ps.-Skylax 34; Livy 33.17.6; Ovid Met. 15.289-90; Plut. De sera 7.552 E; Pliny HN 4.1.5.

71 As stated earlier, these scholars take up the view first advanced by Leake (1835 : II,18-19). This particular area was also ex-

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amined by the geologist C. de Stefani, "Cenni geologici sull' Isola di Leucade," Cosmos 12 (1896) 97-108, who concluded that the original canal was led through the "Stretti Canali." For the developed view of Dörpfeld's school, see v. Seidlitz in Dörpfeld (1927 : I,368); v. Marées (1907 : 13); and Partsch (1907 : 270-71, 275 and 276-77).

[72] V. Seidlitz in Dörpfeld (1927 : I,366).

[73] Thus Partsch (1907 : 273 and n. 1, 274 and n. 1) argues that the ancients mixed up north and west much like Heuzey and Lolling did in their works. Dörpfeld (1927 : I,68 ff.) adopts this argument plus others, all equally contrived, to discredit the sources. Lehmann-Hartleben (1923 : 264, 267), therefore, states that Strabo's account (10.7.8) is simply wrong without any adequate explanation.

[74] For this dredge, see p. 228 and n. 7; cf. also Partsch (1907 : 272).

[75] See pp. 246-47 and n. 61.

[76] Cf. Arrian's use of the word, Ind. 41.2 f., and Oberhummer (1887 : 10 n. 4).

[77] Livy 33.17.6 gives the dimensions of this isthmus (probably taken from Polybios' account) as 500 paces X 120 paces--approximately 375 m X 90 m. The 375 m must be the east-west measurement, the 90 m the north-south one. In Pliny's day, the raised isthmus was gone, but shallows with sandbars existed for a north-south distance of 3 stades, about 550 m. These measurements refer to two different things; the 550 m stretch of shallows certainly could have existed in Polybios' time. Taken at face value, these measurements cannot apply to the northern sand spit [thus Partsch (1907 : 276)] nor should the 3 stade measurement be compared with the 500 paces of Livy's account to show the advancing effects of the silting process [thus Oberhummer (1887 : 12)].

[78] Here, I am following the opinion of Dörpfeld and v. Seidlitz in Dörpfeld (1927 : I,361).

[79] Since the origin of these fine silts is clearly from the hills surrounding the canal area, I find it difficult to accept Negris' view (1904 : 358-60) that the South Mole helped keep the harbor silt-free and that it only silted up when the sea level rose above the top of the mole. Lehmann-Hartleben (1923 : 265) surprisingly takes up this argument and maintains that the South Mole was built primarily to keep the harbor from silting up!

[80] It has been observed that the Venetian fortress of Santa Maura (mentioned at the earliest in a document dating to 1500) is partially founded on this Plaka conglomerate; cf. Dörpfeld (1927 : I,370). It has

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also been pointed out above, that amphora sherds and tile fragments (Roman?) have been found cemented into this Plaka formation; see n. 72.

[81] Oberhummer (1887 : 7-14); Goodisson (1822 : 88).

[82] Strabo 1.3.18; 10.2.8; cf. pp. 249-50.

[83] Leake (1835 : III,17 and map, p. 11).

[84] For Goodisson's remarks, see reference in n. 81; the line of the bridge is not shown on most recent editions of the US or BA charts. For the early surveys, see the Key to the Maps and Charts Used in This Survey.

[85] Negris (1904 : 354-57). It would serve no purpose to dispute Negris' reconstruction of the bridge here, since this has been ably done by others; cf. Partsch (1907 : 272) and v. Marées (1907 : 12).

[86] V. Marées (1907 : 12 and 27).

[87] Goodisson (1822 : 88) says that the road was built of large rectangular blocks forming a surface 5 feet (1.5 m) in width; cf. Negris (1904 : 354).

[88] This clear statement is in direct opposition to the modern interpretation that the ἰσθμός is to be located north of the city; see p. 249 and n. 73.

[89] This is what is asked of Apollo at Cape Ducato (Leukates) in a prayer attributed to Philip of Thessalonike (Anth. Pal. 6.251): ...ἐπὶ δ' ἰστία πέμψον ἀήτην / οὖριον Ἀκτιανοὺς σύνδρομον εἰς λιμένας.

[90] The following sentiments of the unknown author who wrote the nineteenth century sailing directions entitled Ionian Islands. Directions and Views [Misc. Papers 80 (C9)] are timeless and must have been felt by every sailor forced to make the outside passage in unfavorable conditions (p. 357): "Santa Maura has no passage between the north end of the island and the mainland, except for very small boats, although at a very trifling expense comparatively speaking, it might be cut for the navigation of vessels of this country which would save many losses which attend the outside passage of this stormy spot during winter."

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CHAPTER X

Aktion (Cf. Figs. 2 and 18)

Useful Maps and Charts: 4; 17; 20; 21,T.4

At the extreme northwest of Akarnania is the entrance to the Ambrakian Gulf. This entrance is not a simple inlet; it most resembles a true dog-leg, and the cape around which this inlet runs looks like the upper half of a lobster claw. The land which forms this cape called Aktion is low in elevation and swampy. Nevertheless, this commanding position at the entrance to a substantial landlocked sea was marked, merely by its location, as a place of importance. The site itself was too unhealthy to nurture the growth of a commercial city like Leukas; it was also too indefensible. The nearby Korinthian colony of Anaktorion seems to have utilized a harbor somewhere on the west coast of this cape (see below), but this cape became best known for the sanctuary and temple of Apollo which was established here, apparently at an early date.[1] This precinct of Aktian Apollo eventually became the most important holy shrine in all of Akarnania and at the end of the third century, was taken over by the κοινὸν τῶν Ἀκαρνάνων as the chief sanctuary of the whole ethnos.[2]

A. The Apollo Sanctuary and Neorion of Augustus (Figs. 37 and 38)

The site of Aktion was already pretty bare when Leake visited in

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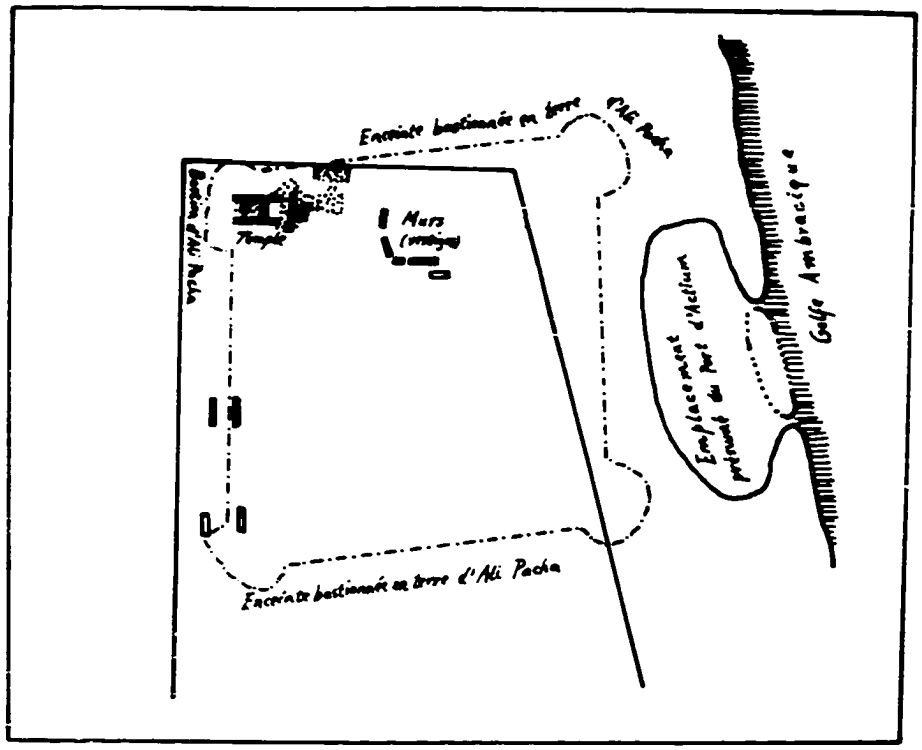

Fig. 37

1806. Many of the blocks had been robbed away by the later inhabitants of Nikopolis (Preveza) and what they left behind was removed by the agents of Ali Pasha when they collected materials to build his nearby fortifications.[3] Leake used topographical arguments to identify the site correctly as Aktion and his account, plus those of Heuzey, Oberhummer and C. Champoiseau are the best record we have of what still remained in the nineteenth century.[4] Since the remains are even less well preserved today, our picture of the site depends largely upon these accounts.

Of the three accounts the most informative concerning the probable

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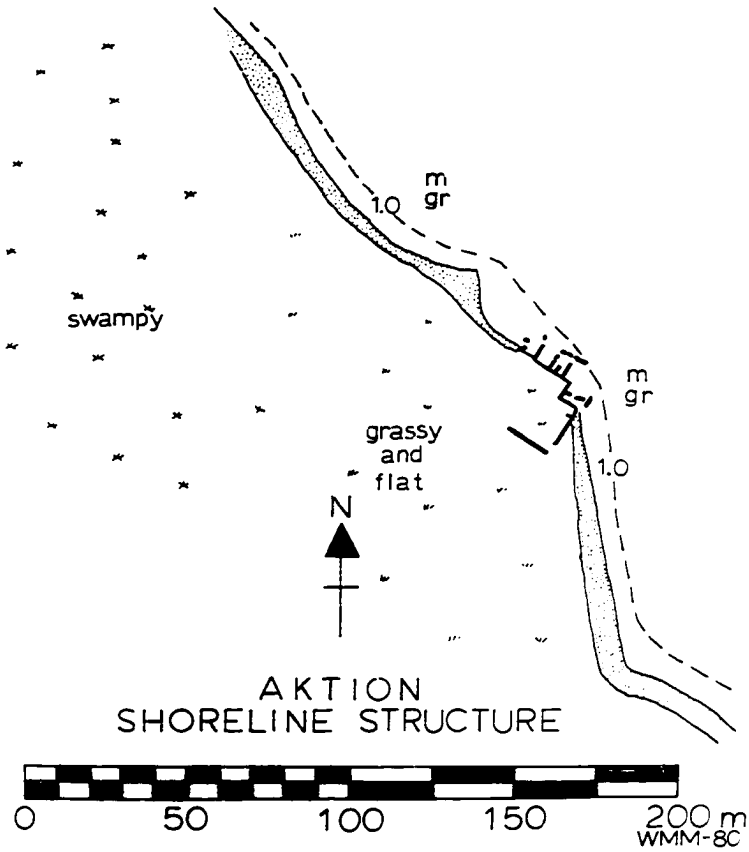

Fig. 38

remains of the sanctuary is that of Champoiseau, the one-time Consul-General of Smyrna who searched through the ruins here in 1867 and 1868. His handwritten account was included in M. Collignon's 1886 study of the two archaic torsos discovered by the excavations and taken to the Louvre. Oberhummer excerpted the whole of Champoiseau's account because of the limited circulation of the journal in which Collignon's study appeared.[5] Since these remarks are pertinent to this discussion and also not easily available, I too have transcribed them below [Collignon

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(1886: 235-237)]:

M. Champoiseau s'était proposé d'explorer la pointe de terre où était situé Actium, entre le golfe d'Ambracie et le bras de mer qui sépare le promontoire d'Actium de la ville actuelle de Prévesa. "Aujourd'hui," dit M. Champoiseau, "quelques rares vestiges consistant en pans de murs qui sortent à peine de terre font seuls connaître l'emplacement d'Actium. Cependant j'ai pensé que les sanctuaires d'Apollon, dont parle Pausanias (VIII 8, 12, cf. Str. VII p. 325), devaient se trouver dans la partie la plus septentrionale, et c'est là que j'ai commencé mes recherches. Après plusieurs sondages qui n'ont amené que la découverte de murailles isolées et sans valeur, je suis arrivé à une enceinte continue et à un édifice dont le sol, recouvert de plus de deux mètres de terre, est formé par une mosaïque composée de petits cailloux de mer de couleurs et de grandeurs diverses, noyés dans un ciment très dur et formant un dessin régulier, aux nuances harmonieuses. Un piédestal placé au centre de la salle principale démontre assez que l'édifice découvert est un temple." Les fouilles n'ont pu malheureusement être poussées plus loin; elles ont été arrêtées par un bastion construit sur la partie ouest du temple, à l'époque où Ali, pacha de Janina, fortifia la pointe d'Actium. Les travaux furent reportés vers l'est et dégagèrent une partie de l'enceinte sacrée du temple. Plus loin, au nord-est, et près du mur de la ville, M. Champoiseau trouvait à une assez grande profondeur les deux statues qui appartiennent aujourd'hui au Louvre. "Elles devaient," dit l'auteur de la découverte, "orner le temple primitif, brûlé sans doute aux premiers temps des luttes durant lesquelles l'Etolie et l'Acarnanie furent tant de fois ravagées." C'est probablement de ce temple que provenaient les fragments d'antefixes en terre cuite trouvés à l'est du temple de l'époque romaine, signalé plus haut; peut-être faut il aussi rapporter au même édifice des restes de mosaïque à dessins noirs, blancs et rouges, qui semblaient avoir été enlevés de leur place primitive et dispersés çà et là.

En résumé, voici les conclusions que M. Champoiseau croit pouvoir formuler: "Les sanctuaires d'Apollon à Actium se trouvaient bien sur la partie la plus avancée et en même temps la plus élevée de la pointe de ce nom, de façon, ainsi que le disent les anciens auteurs, que les navigateurs en arrivant pussent les apercevoir de loin. On est porté à admettre l'existence successive d'au moins trois sanctuaires, renversés par les envahisseurs à diverses époques, puis réédifiés sur le même emplacement

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> (les débris des anciens servant à en construire de nouveaux une fois l'invasion passée); les premiers et les plus antiques de tous en bois et terre cuite, comme ceux de Dodone; les suivants en calcaires, pierres dures et marbres mêlés de proportions grandioses; le plus récent en 'opus reticulatum,' de travail romain, et détruit une dernière fois, soit par les barbares, soit par le christianisme naissant."

It is clear from the above account and from the rough sketch which accompanied it (Fig. 37), that Ali Pasha had built an earthen fortification directly on top of what had originally been the temenos of Apollo, and in so doing, had obliterated and dismantled much of the remains that had been there. Today, vestiges of this earthen mound (the "enceinte bastionée en terre" of Fig. 37) and the trench in front of it can be clearly seen to the northeast of Fort Punta and the modern ferry crossing to Preveza. The small hill on which the temple was presumably built is also easily identifiable in this same area; an army benchmark now sits atop the hill. Nothing else exists on this spot to indicate that a temple once stood here. Nevertheless, the topography of this general area exactly fits the description of Strabo (7.7.6) who writes that the temple stood on a small hill, beneath which was a plain, a grove and a shipyard. It has been generally accepted that this was indeed the location of the temple. The flat land surrounding the small hill is certainly the "plain" and a grove could have been anywhere in the immediate environs. As for the neorion, Lehmann-Hartleben is surely correct in doubting that there was a true shipyard here. Properly speaking, it was the maritime museum built by Augustus to honor the memory of the battle of Aktion.[6] The exact location of this neorion is unknown, but it must have been somewhere along the nearby shore of

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the gulf, or perhaps within the inlet on the western side of the cape.[7] Wherever its location, we know its existence was short-lived; the structure and the ships dedicated within had burned to the ground by the time Strabo wrote his account.

Only one building is currently visible on the shore of the gulf, the foundations of which were noted by N.G.L. Hammond.[8] When I first stumbled upon these foundations in 1979, I hoped they might be associated with the neorion (Fig. 3, site 18; Fig. 38), but since at least four large reused blocks are built into the walls of this structure, it is likely that it postdates the sanctuary complex. Since the neorion was part of this sacred complex, the "shoreline structure" should be associated with some other function, the nature of which remains unclear. The nature of its construction however, would indicate that the building was erected no earlier than the Roman period, and it may be no older than a few hundred years.[9]

B. The Harbors of Aktion (Cf. Figs. 18 and 37)

Useful Chart: 17

The site of Aktion was never much more than a sanctuary of Apollo. The site originally belonged to Anaktorion and even after it became a common sanctuary of the Akarnanian ethnos c. 216, Anaktorion retained control over the harbor taxes collected here except during the period of the festival when these revenues were shared with the κοινόν.[10] From the existence of an ethnic form Ἀκταιώτης (fem. -ῶτις) it seems there was a settlement of sorts associated with this site, but there is no

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solid evidence that it had any independent political status.[11] Its function may have been largely mercantile in nature.

It is clear from a number of our sources that more than one anchoring spot was associated with Aktion. Because of its location at the entrance to the Ambrakian Gulf, the site ably served as a stopover station for coasters. Strabo, in particular, writes that there was an external harbor, i.e., outside the gulf.[12] Ships could put in here in settled weather and not go through the time-consuming process of sailing into and out of the gulf.[13] Considering that ships stopping here might need provisions and water, and that the place served as a harbor of Anaktorion,[14] this λιμὴν ἐκτός of Strabo's account was probably a true port with some sort of permanent mole or dock. Heuzey believed he had located a perfect spot for such a port in a small lagoon just to the east of Akra Skilla near "une chapelle des Saintes-Apôtres."[15] I believe an equally good location exists immediately to the south of Akra Skilla. According to Z. Mangos, a resident of modern Palairos who works at the Hellenic Air Force Base near Aktion, there is a "submerged road" in the sea here. It is my experience that "submerged roads" often turn out to be harbor moles. Unhappily, I was not able to examine this area for ancient remains due to limitations of time. The exact location of this harbor awaits future investigation. Other anchoring spots which could have been associated with Aktion can be ascribed to the protected waters inside the straits and to the east of the cape, inside the gulf.[16] The shoreline is so heavily silted now, that all traces of harbor installations (if there were any) along the shore of the cape have been completely obscured.

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Notes to Chapter X

[1] Since two kouroi were found here which have been dated on stylistic grounds to the first half of the sixth century, the sanctuary of Apollo may date to the original founding of Anaktorion; cf. Habicht (1957 : 100). See also Collignon (1866) for photographs of these two kouroi now in the National Museum in Athens.

[2] Our knowledge of the history of Aktion was greatly increased by the recent discovery of a Hellenistic inscription recording an agreement between the Akarnanian League and one of its members, Anaktorion, to share the sanctuary of Apollo during the period of his festival. For this document and its importance, see the excellent discussion by Habicht (1957). For the festival of Apollo which was held here down through the Hellenistic period, see especially pp. 102-109 of Habicht's discussion; for the festival after Augustus' refoundation of the sanctuary and cult, see Sarikakis (1965 : 147-62).

[3] Heuzey (1860 : 388); see also the remarks of Champoiseau quoted in the text, pp. 269-70.

[4] Leake (1835 : I,174, 194; IV,28 ff.); Heuzey (1860 : 386-91); Oberhummer (1887 : 28-30).

[5] Collignon (1886); cf. Oberhummer (1887 : 187-89).

[6] Lehmann-Hartleben (1923 : 241); cf. Dio Cass. 51.1.2; Strabo 7.7.6; Tac. Ann. 2.53; Serv. Aen. 3.274.

[7] In considering the merits of Champoiseau's placement of the "port d'Actium" (cf. Fig. 37), it should be kept in mind that the exact shoreline has certainly changed since the first century B.C. Two factors have acted in opposition to one another to confound our attempts to identify the ancient shoreline. Land is being formed by the alluvial silts carried into the gulf by the surrounding rivers, streams and winter torrents. This effect has been countered to an unknown degree, however, by the relative rise in sea level.

[8] Hammond (1967 : 62).

[9] The walls are between 0.5 m and 0.6 m thick and are composed of a sandy cement as much as of small fieldstones and tiles. Such a high proportion of cement to binder (tiles, bricks or stones) is typical of late Roman and Byzantine structures. One of the reused blocks is a threshold block for a medium sized door (utilized here merely as a wall block); these reused blocks are not necessarily from the temple, but most likely come from some structure in the sanctuary complex.

[10] The inscription (IG IX 1^2, 583) reveals that the festival had a

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strong mercantile and economic element to it. Various goods were sold at a market watched over by two ἀγορανόμοι (line 35) and taxes were collected by a board of eight tax collectors (πεντηκοστολόγοι) and an equal number of secretaries (lines 34-35). Among the taxes collected were a 2% harbor tax (the πεντηκοστή), a tax on the selling of slaves (line 33), and probably a sales tax (the ἐπωνία) and a market tax (the ἀγοραστικόν). Cf. further, Habicht (1957 : 106 ff.); Thiel (1926); and also pp. 334-35.

[11] Oberhummer's remarks on this matter (1887 : 29 n. 3) are so well put that I have transcribed them below: "Ausdrücklich wird Aktion ein Stadt genannt nur bei Mela (II 54) und St. B. Ersterer führt sie jedoch bei Epirus an, meint also jedenfalls Nikopolis, das er sonst nicht nennt; von späteren Schriftstellern wird die Lage von Aktion und von Nikopolis mehrfach verwechselt, z.B. Eutr. VII 7; Const. Porph. them. II 8; Cedren. I 327a Par. (573 Bonn); die Verwirrung wurde besonders dadurch veranlasst, dass der Name Aktions durch die aktischen Spiele auch zu Nikopolis engere Beziehung erhielt, worüber später Näheres. Daraus erklärt sich auch die Stadt Aktion des Stephanos."

[12] Strabo 10.2.7: Ὁμωνύμως δὲ λέγεται τό τε ἱερὸν τοῦ Ἀκτίου Ἀπόλλωνος καὶ ἡ ἄκρα ἡ ποιοῦσα τὸ στόμα τοῦ κόλπου ἔχουσα καὶ λιμένα ἐκτός.

[13] In the spring of 169 B.C., C. Marcius Figulus, praetor of the fleet, sailed with the consul from Kerkyra to Aktion. From here the consul went on to Ambrakia and then to Thessaly (Livy 44.1.3). Since the praetor continued on his way around Leukas, he may not have entered the gulf at all. The passage from Hyginus' commentary quoted above (n. 61, p. 262) implies that the boat was just stopping briefly at Aktion on its way to Leukas. Hammond (1967 : 63) notices the effect of the time-consuming process of entering the gulf, but his description of the wind factor is not completely accurate. There exists the so-called "Gulf Wind" here which blows out of the gulf early in the morning. It was this wind that Leake utilized in sailing from Vonitsa to Preveza one morning before dawn. The sea breeze sets in as Leake says (1835 : IV,25) around 1100 hours.

[14] This fact is made quite clear by the text of the inscription mentioned above (IG IX 1^2, 583). Before this inscription was found in the 1950's, our only direct evidence for this fact came from a marginal note in a manuscript of Thucydides (Schol. in Thuc. 1.29.3): ἐν Ἀκτίῳ τῆς Ἀκαρνανίας γῆς: ἡ Ἀνακτορία γῆ ἐστι τῆς ἠπείρου, τό δ' Ἄκτιον λιμήν.

[15] Heuzey (1860 : 389). It is difficult to determine the exact nature of the ancient shoreline here because of the alluvial silting. Yet, it should be kept in mind that the sea level was some 3 m lower when the harbor was in use. For this reason, I prefer the area south of Akra Skilla to Heuzey's choice. This particular area is admittedly

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an open roadstead, but during periods of calm weather (i.e., throughout the summer) would have been adequate as an anchoring place.

[16] Cf. Dio Cass. 50.12.1: ἦγε [Octavian in 31 B.C.] δὲ αὐτοὺς οὐκ ἐς τὴν Πελοπόννησον οὐδ' ἐπὶ τὸν Ἀντώνιον, ἀλλὰ πρὸς τὸ Ἄκτιον, ἐν ᾧ τὸ πλεῖον αὐτῷ τοῦ ναυτικοῦ ὥρμει ....

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PART II

THE HISTORY OF AKARNANIA: A BRIEF REEVALUATION

INTRODUCTORY REMARKS

The first systematic reconstruction of Akarnanian history was completed long ago by Eugen Oberhummer and it still remains the best overall treatment of the subject.[1] Nevertheless, almost a century has elapsed since its publication, and new epigraphical and archaeological evidence has since come to light.[2] Furthermore, a number of important studies have appeared since Oberhummer's day which have advanced our understanding of a wide range of factors that played a part in the history of Akarnania.[3] And lastly, the findings of this present study have suggested some alterations in the accepted versions of Akarnanian history. Sufficient new evidence has been introduced, therefore, to allow for a general reevaluation of Akarnanian history. I make this last statement with some reluctance. It would be preferable to undertake such a task after completing a full topographical investigation of Akarnania; but such a study remains for the future. Nevertheless, an attempt can be made to present a brief narrative of Akarnanian history in light of the information we do possess and, where possible, to note the likely status of those western poleis investigated by this study which are largely unrecorded in our literary sources.

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CHAPTER I

Prehistory and Myth

Our earliest literary knowledge of Akarnania comes from a few passing references in epic poetry which reveal only a vague perception of this corner of the mainland. Homer's poetry does not mention the name "Akarnania," and the area is vaguely represented as the kingdom of the cruel king Echetos, an ill-defined and frightful character who "preys on all men" and mutilates those unfortunate enough to fall into his clutches.[4] Homer's description of Ithaka and its environs is not that given by a native inhabitant; all the best attempts to correlate Homeric with Classical and modern place names have thus been inconclusive.[5] A similar vagueness hinders our identification of Akarnania's early inhabitants, the Taphians, Teleboans, Leleges and Kouretes. As early as the fourth century B.C., scholarly attempts were being made to address and answer these questions, but their conclusions ring hollow.[6] Simply stated, we know almost nothing concrete about Akarnania before the age of colonization because the Greeks themselves knew very little about the territory. This lack of knowledge was due to the fact that Bronze Age Akarnania was never a heavily populated area; only a few securely identified Bronze Age habitation sites have thus far been located in Akarnania, and these are all in the region of Astakos.[7] The lack of sites along Akarnania's coast as opposed to the significant number of Bronze

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Age sites on the offshore islands (Zakynthos, Kephallenia, Ithaka, Meganisi and Leukas) might be explained away as due to chance, i.e., someday the elusive Akarnanian sites will be found. Yet, considering what we have determined about the coastal sailing route, I believe this settlement pattern is indicative of the unnavigability of the strait between Leukas and the mainland during the Bronze Age.

Let us consider how such a settlement pattern would have occurred. We might expect the earliest Bronze Age sites here to be located along natural routes of communication between the Greek northwest and the Bronze Age centers in Greece. As this study has shown, the western coast of Akarnania is not easily accessible from the interior and communication up and down the coast by land is blocked by mountain ridges between each major bay. It is an area most easily reached by boat. Therefore, any habitation sites found here were probably settled for one of three reasons: 1) the interior was so populated that new settlements were forced out of the interior upland plains into the coastal valleys for want of land; 2) inland peoples, not particularly overpopulated, established coastal settlements for purposes of trade; or 3) incoming peoples first arrived by sea, settled the coast and then moved up the valleys to settle additional sites inland.

A general lack of Bronze Age habitation sites in the interior rules out the likelihood of the first alternative. It is more difficult to choose between the remaining two possibilities, yet there is one indication that Bronze Age Astakos was settled from the sea. According to S. Benton, who excavated a small LH III deposit near the Classical site of

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Astakos, the pottery ("many sherds of good LM III B and some LM III A"[8]) bore "a strong resemblance to pottery at Polis, Ithaka."[9] Since the full range of LH pottery on Ithaka would indicate that this was the point of origin, not Astakos, it is not impossible that the LH III inhabitants of Astakos originated from Ithaka and continued to import pottery (or continued to make their own in a style of their forefathers) and other goods from there after settling on the mainland.[10] Other Bronze Age sites are located inland from Astakos at Chrysovitsa (two small tholos tombs at ancient Koronta), Palaiomanina (a habitation site at ancient Sauria) and Mila (a large tholos tomb near Palaiomanina).[11] All three sites (although only one is a true habitation site) can be reached quite easily from the seacoast, especially when it is recognized that the Bronze Age shoreline would have been less advanced than it is today.[12]

Since no other Bronze Age sites have been located in Akarnania's interior and many dot the offshore islands, the logical conclusion follows that Astakos and the other inland sites were settled by people who arrived by sea. The similarity of the pottery found at Polis, Ithaka also supports this view. If such was the case, then the line of communication which linked these south Akarnanian sites with other Bronze Age centers was most likely the sea. This is in perfect accord with what we know of the distribution of Mykenaian pottery in the west during the late Bronze Age. LH III A-C pottery is found in southern Italy, Sicily, the Aiolian Islands and Ischia, and reveals some sort of regular Mykenaian trading activity.[13] We may assume, therefore, the Mykenaian ships

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regularly sailed along the coastal route leading past the Akarnanian shore. The number of sites with LH III pottery located on Zakynthos, Kephallenia and Leukas is in full agreement with this supposition. If our original premise still prevails, namely, that the earliest (i.e., the first to exist in a given area) Bronze Age settlements should lie along natural routes of communication, then the sailing route (the line of communication) during the Bronze Age seems to have run through the offshore islands.[14] As we have seen from the analysis of the wind regime off the Akarnanian coast, the optimal sailing route shifts offshore when the Leukas strait is unnavigable. If this was in fact the case during the Bronze Age, it would account for the curious lack of sites along the Akarnanian coast north of Astakos.[15]

This still leaves an important question unanswered, i.e., just when did the ethnos of the Akarnanians settle their territory, and where did they come from? Since no source specifically records this event, the answer cannot be conclusive. The Northwest-Greek dialect of the historical Akarnanians points to some tie or common origin with other Northwest-Greek speakers who are found "from Acarnania to Elis and from Thessaly to Achaea."[16] The story that Amphitryon, king of Thebes, fought a successful war against the Teleboans has been interpreted by Oberhummer as evidence for some sort of settlement in Aitolia by peoples from Thessalian Aiolis and of Boiotian stock.[17] From Thucydides we know that the area around Kalydon and Pleuron was known as Aiolis in the fifth century, so some sort of connection might be assumed.[18] The exact nature of this connection, however, is difficult to recover. Hammond

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believes that this Northwest-Greek speaking element moved into Akarnania at the time of the Dorian migrations.[19] Considering the paucity of Bronze Age sites thus far identified there, he may be correct. It should be noted however, that the historical Akarnanians could have entered their territory sometime later than the period of the Dorian migrations and still have arrived in time to first appear in our historical record during the seventh century. Concerning their origin, characteristics of the dialect they spoke have been traced to Illyria and Epiros; little more can be said with any certainty.[20]

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Notes to Introductory Remarks and Chapter I

[1] Oberhummer (1887).

[2] All references to archaeological evidence occur at the appropriate places in the text. The epigraphical texts relevant to Akarnania have been conveniently collected into one fascicle of the IG corpus by G. Klaffenbach (= IG IX 1^2 part 2).

[3] Merely by way of example, there are Woodhouse (1897); W.W.Tarn, Antigonus Gonatas (Oxford, 1913); Cross (1932); F.W. Walbank, Philip V of Macedonia (Cambridge, 1940); Philippson and Kirsten (1958); and Hammond (1967).

[4] Hom. Od. 18.84-87, 115-16; 21.308-309.

[5] For a good, brief overview of the various attempts to correlate Homeric and modern place names in the general area around Leukas, see Jones (1928); cf. also in general Dörpfeld (1927).

[6] Cf. Strabo 7.7.2 and Oberhummer (1887 : 54). Perhaps the most involved of all the reconstructions is that of Kirsten (1940 : 302-303).

[7] See in general R. Hope Simpson and O.T.P.K. Dickinson, A Gazetteer of Aegean Civilisation in the Bronze Age, Vol. I: The Mainland and Islands (Göteborg, 1979) 182-83 and Map E; cf. also pp. 244-45 with notes.

[8] Benton (1931-32 : 244); Miss Benton's designation LM = Late Mykenaian.

[9] Benton (1931-32 : 244).

[10] For the full range of LH material on Ithaka, see Simpson and Dickinson, Gazetteer, 185-87. One is reminded at this juncture of the property which Odysseus possessed on the mainland (Hom. Od. 14.100-103): "Twelve herds of cattle on the mainland, as many flocks of sheep, / As many herds of pigs and again as many straggling flocks of goats, / And friends over there, and his own herdsmen pasture them for him."

[11] For these sites, see the concise summaries and references in Simpson and Dickinson, Gazetteer, 182-83; for the sites on the offshore islands, see pp. 183-93 and Map E of Simpson's and Dickinson's work.

[12] For the effects of alluvial land formation in the Acheloos delta, see pp. 18 ff.

[13] For the evidence, see Lord Wm. Taylour, Mycenean Pottery in Italy and Adjacent Areas (Cambridge, 1958).

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[14] The unequal distribution of sites between the mainland coast and the offshore islands is too striking to be merely due to chance.

[15] It is not surprising, therefore, that our first glimpses of early Akarnanian history occur at those places along its coast which are most accessible to the sailing route leading outside Leukas--Akarnania's northwest and southeast corners; see below.

[16] Hammond (1975 : 701).

[17] Oberhummer (1887 : 51).

[18] Thuc. 3.102.5.

[19] Hammond (1975 : 700-701).

[20] For studies of this dialect, see the references quoted by Klaffenbach (1957 : IX-X).

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CHAPTER II

The Effects of Korinthian Colonization

The age of Korinthian colonization under the Kypselidai is traditionally viewed as the beginning of Akarnanian history; this fact is unarguable. Nevertheless, a chance reference to Oiniadai's foundation myth by Thucydides can be taken to show that Oiniadai had already been settled when the Korinthians came to northwest Akarnania.[1] According to this myth, Amphiareos' son Alkmaion settled at Oiniadai to escape the terrors attendant upon his act of matricide. Oiniadai was suitable according to the provisions of an Apolline oracle because the area had not yet been land at the time the crime was committed. Kirsten has rightly observed that this story implies the Greeks' first knowledge of the place was as a recently formed spot (an allusion to the process of delta formation) which had been settled before their arrival.[2] Alkmaion became the first ruler of this area, and appropriately, his son Akarnan gave his name to the people over whom they ruled.

In the northwest, Korinth's successful settlement of colonies at Leukas and Anaktorion was apparently carried out in spite of hostile native opposition. An account current in the mid-fourth century has the original Akarnanian inhabitants of Leukas being killed by the incoming Korinthians; these Korinthians had been called in by the Akarnanians who had hoped, thereby, to settle the state of political strife

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then existing in their community.[3] Although this fourth century account sounds as if it has been colored by political events of the fifth century which occurred at Amphilochian Argos and Kerkyra, it probably does stem from some kernel of truth.[4] Furthermore, an original native settlement in the canal area might help to explain why this attractive site was overlooked when the Bakchiadai sent out colonies in the eighth century. At Anaktorion the situation must have been essentially the same. Although we do not hear of any bloodshed at the time of this colony's founding, it is clear from the actions of the Akarnanians after their takeover of Anaktorion in 425 that they viewed the city as a Korinthian encroachment on their territory.[5]

The fifth century hostility felt by the Akarnanians of the Plagia Peninsula toward Leukas can also be ascribed to the Leukadian presence on the Akarnanian shore of the canal area. This peraia was probably established for defensive reasons at the colony's initial settlement or soon thereafter. And when a navigable passage was cut through the straits, the control of this peraia became a necessity. Settlements like Sollion, the site at Agios Georgios (Nerikos?) and perhaps also the one at Peratia (Dioryktos?) were founded as part of a buffer zone between the city of Leukas and the original inhabitants of the Plagia Peninsula. For this reason, Leukas was considered by the Akarnanians in the fifth century to be a city "always hostile" to them.[6]

Our knowledge concerning Korinth's colonizing activities in Akarnania is solely limited to the northwest of the territory. Nevertheless, attempts have been made to interpret the settlements at Alyzeia

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and Astakos as Korinthian colonies too.[7] With this as "evidence," Korinth has then been invested with a policy of blocking all Akarnanian access to the coast, thereby forcing the native inhabitants into forming a defensive alliance--the Akarnanian League--centered at Stratos.[8] The absurdity of such an argument is self evident; Korinth's control of the northwest coast cannot be generalized to encompass the whole western coast of Akarnania. Furthermore, there is no evidence at all until the mid-fourth century that the Akarnanians even desired access to the sea. Their lack of participation in mercantile activity, however, is not sufficient reason to argue that they were shut off from the sea, an argument applied in particular to Palairos. Those who maintain that Sollion should be located near Pogonia have concluded that the Korinthians, through this settlement, blocked Palairos' access to the sea.[9] I have already argued elsewhere why Sollion should not be located near Pogonia; it should also be noted that its importance is never equated with its possession of a harbor.[10] Palairos may have been originally established as a defensible point for inhabitants of the Plagia Peninsula in opposition to the Leukadian peraia, but it would be absurd to argue that Palairos did not control the adjacent valley all the way to the sea.[11] Even if we accept that Sollion was located near Pogonia, events of the early fourth century, when Palairos possessed Sollion, show she was still not interested in a trading outlet there.[12] This observation presumably applies to the earlier period as well.

A similar story may be justifiably postulated for Akarnanian settlements at Alyzeia and Astakos--communities which plausibly could

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have been settled after the late seventh century. The first time either of these two towns appears in history is during the Peloponnesian War and they both seem to be small, relatively insignificant places.[13] Although very little is known about these two poleis throughout much of Akarnania's history, one fact can be ascertained for this early period: they were not Korinthian colonies. In fact, I see no reason to doubt Stephanos of Byzantion's statement that Astakos was a colony of the Kephallenians.[14]

Even though Korinth did not pepper Akarnania with colonies, it has long been recognized that the ones she did establish did have a cultural effect on the native inhabitants.[15] The artistic influences in Akarnania are not as dramatic as those seen at Thermon or Kalydon,[16] but it is partly through these Korinthian colonies that Akarnania learned to write. One must not oversimplify this matter, however; Achaian influence arrived also, as evidenced by an archaic inscription found at Stratos, a fragment displaying Achaian letter forms at Echinos (?) and two possible examples at Palairos.[17] In the words of L.H. Jeffery, "probably in Akarnania, as in her flanking neighbors Aitolia and the Ionian Islands, the colonizing states of Achaia left a good many marks on their way to the west, though whether their script got to Akarnania directly or via her neighbors must remain an open question."[18] Yet, due to the permanence of the Korinthian colonies in Akarnania's northwest, there can be no doubt concerning the importance of their cultural influence on the Akarnanian ethnos.

Economically, Korinth also influenced Akarnania just as she in-

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fluenced most of the coastal peoples of northwest Greece. This influence is most dramatic during the fourth and third centuries when Akarnania opened up as a market, but it must have prevailed to a limited degree in the years of the sixth and fifth centuries as well. Such a long commercial presence in this area of Greece is indicated by the general adoption of Korinthian-type coinage during the late sixth, fifth, fourth and third centuries.[19]

During the late seventh and sixth centuries, we still only get a vague impression of the western coast of Akarnania. Oiniadai is the only likely settlement to have been inhabited from the beginning of this period. Yet, by the beginning of the fifth century it is likely that settlements existed at the present sites of Agios Pandeleimona, Astakos, Alyzeia and Palairos.[20] Precisely when these sites were founded is impossible to tell at present. If we can judge by the picture drawn of these people in the fifth century, they were simple folk whose economy was totally land-based; they grew essentially what they consumed, be it wheat, barley, olives, grapes or livestock. No mechanism yet existed, it seems, for a regular system of interstate trade. Politically and socially, relationships were determined and directed by varying degrees of kinship. The kinship tie which defined the ἔθνος Ἀκαρνάνων is a subject to which we now must turn.

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Notes to Chapter II

[1] Thuc. 2.102.5-6; cf. also Paus. 8.24.8 f.; Apollod. 3.7.4; Strabo 7.7.7; and 10.2.25 f.

[2] Kirsten (1937 : 2209-10). Weil (1880 : 121) believes that the association with Argos through Alkmaion implies that Oiniadai was originally settled by Peloponnesians. Such an interpretation is too hypothetical to be anything more than a guess; furthermore, it should be noted that Alkmaion is not said to have brought any followers with him.

[3] Ps.-Skylax 34; cf. Oberhummer (1887 : 71-80) who provides an excellent analysis of this period and who presents full quotations from all the relevant sources.

[4] For events at Amphilochian Argos, see pp. 292 ff. The famous stasis at Kerkyra episode is contained in Thuc. 3.70-84.

[5] Thuc. 4.49.1; cf. also p. 297.

[6] Thuc. 3.94.2.

[7] Cf. for example, Kirsten (1940 : 307); Hirschfeld (1894 : 1151); Weil (1880 : 121-22); and Head (1889 : lviii).

[8] Weil (1880 : 121-22).

[9] Cf. for example, Kirsten (1940 : 306).

[10] See pp. 201-203.

[11] This is a view which has apparently grown out of a misinterpretation of Cic. Fam. 16.5; cf. p. 141 with n. 10.

[12] See pp. 170-72.

[13] Astakos: Thuc. 2.30.1, 33.1, 102.1; Alyzeia: Thuc. 7.31.2.

[14] St. Byz. s.v. Ἀστακός; no other writer notes this fact.

[15] See Kirsten (1940 : 304 and 312 n. 25).

[16] See Will (1955 : 580 and n. 5); cf. also Kirsten (1940 : 304).

[17] The inscription from Stratos is IG IX 1^2, 398--Kirsten (1940 : 304) incorrectly states that it is written in Korinthian letters; the one from Echinos (?) is IG IX 1^2, 367; and those from Palairos are IG IX 1^2, 458 and 459.

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[18] Jeffery (1961 : 227).

[19] See Appendix F.

[20] Had these communities been settled as late as the fifth century, some record of their establishment should have been preserved.

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CHAPTER III

The Fifth Century and the Development of the Akarnanian League

Although Megistes, the mantis who foretold the fate of those at Thermopylai, was an Akarnanian, Akarnania as a whole did not officially take part in the Persian Wars.[1] Leukas, Anaktorion and nearby Ambrakia, being Korinthian colonies and thus more closely in touch with events of the Greek world, did send contingents to both Salamis and Plataia.[2]

Akarnania's first direct appearance in history occurs sometime between 459 and 453 when the Messenians recently settled by Athens at Naupaktos attacked and successfully captured Oiniadai.[3] Pausanias, our source for this episode, tells us that in the year following the city's capture, the Akarnanians gathered a force "from all the cities" (δύναμιν οἱ Ἀκαρνᾶνες ἀπὸ πασῶν συλλέξαντες τῶν πόλεων) in order to recapture the town. In the eighth month of the siege, the Messenians slipped out of Oiniadai and returned through Aitolia to Naupaktos.[4]

This account is very important for our understanding of the bond which united the Akarnanian ethnos in times of need. It seems that already by the mid-fifth century some mechanism existed whereby one Akarnanian community could solicit help from other communities of the ethnos, probably κατὰ τὸ συγγενές.[5] In other words, by the mid-fifth century, the Akarnanians recognized some sort of kin relationship as existing among themselves. I do not believe we have sufficient evidence however, to conclude that the Akarnanians conceived of their κοινόν as

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a distinct political entity with any other duties than to promote a common defense against attack.[6] As Busolt-Swoboda correctly notes, the Akarnanians as a people during the fifth century waged war, took possession of besieged places, sent envoys with special instructions, and made peace and alliances.[7] None of these actions implies a priori the existence of a developed federal state or "League." One can see, however, in every action which involved the combined body of Akarnanians during this period, an army held together by necessity and the intangible, yet strong bonds of ethnos kinship.[8]

The importance of this ethnos bond is amply revealed by the way Amphilochian Argos was admitted to this alliance of neighbors sometime soon after Perikles' attack on Oiniadai in 453.[9] Thucydides (2.68.6) provides us with the circumstantial evidence but does not date the event. Attempts to place its occurrence have always argued from the Athenian viewpoint and have never considered the evidence from the Akarnanian position--a position to which I now turn.

During the 450's, the Athenians began to expand their sphere of influence westward out through the Korinthian Gulf. As part of this policy, they subjugated Zakynthos and Kephallenia, captured the Korinthian colony Chalkis and established the Messenians from Ithome at Naupaktos.[10] The Messenian attempt to take Oiniadai which immediately followed their settlement at Naupaktos was presumably part of this same policy since an Oiniadai controlled by Messenian exiles would ensure a friendly base for an Athenian squadron at the entrance to the Patraic Gulf. Athens, therefore, must have tacitly supported their attempt. No

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one had foreseen the combined Akarnanian resistance to this move, so Perikles went into the area to gain by diplomacy what the Messenian exiles had failed to obtain by force. According to Diodoros 11.85.2, he managed to win over all the cities (i.e., the ones which were likely to send help to Oiniadai on short notice) except for Oiniadai herself.[11] Having undermined Akarnanian support for Oiniadai (how we do not know), he apparently tried to take the place by force, but was unable to do so and withdrew.[12] This was apparently the first contact the Akarnanian poleis had had with Athens; its effect helped to alienate the people of Oiniadai from the rest of the ethnos--an estrangement which was still fully operative during the early years of the Peloponnesian War.

Sometime after the events just described, and perhaps before Perikles sent envoys to request Akarnania's presence at a congress of Greek peoples,[13] the Amphilochian Argives solicited aid from the communities of Akarnania, just like the people of Oiniadai had done when dispossessed from their city. It seems that at some previous time the Amphilochian Argives had invited the Ambrakiotes to settle in their city. After a while, the Ambrakiotes had expelled the original inhabitants and held the city alone. The Argives thereupon "gave themselves over to the Akarnanians."[14] This expression is significant in that it implies (in this case) a call for help not based strictly κατὰ τὸ συγγενές.[15] For example, Herodotos uses this expression to describe how the Plataians attached themselves to the Athenians in the late sixth century.[16] Almost immediately some kin relationship was professed by the Akarnanians to justify their aid to the Amphilochian Argives. Thucydides tells

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us that the original founder of the city was Amphilochos, son of Amphiareos (and thus the brother of Alkmaion).[17] By the time of Ephoros, when Argos was considered a part of Akarnania,[18] the kinship bond recognized was one step stronger; Ephoros reports that the city had been founded by Alkmaion himself, and merely named in honor of his brother.[19]

This myth transformation is very interesting in that we can see how such stories were developed and altered to support pragmatic political relationships. It also shows how closely intertwined the mythological background and kin sensitivities were in the bond which held together the Akarnanian communities. Athens did not alter some myth to explain Plataia's alliance; political consciousness had advanced to the point where an ally could be held in esteem for his loyality. Such a stage of political development had not yet been reached in Akarnania. Here the kinship group was widened and a new member was admitted. But I have gotten slightly ahead of myself. Let us return to the Argive request for help.

Since the Ambrakiotes were colonists of Korinth, her aid could not be solicited; in fact, Korinth would have profitted from the takeover in much the same way that Athens would have benefitted from a Messenian capture of Oiniadai. Strong ties between Akarnanian communities and Athens were not yet established, but some contact had occurred as a result of Perikles' negotiations in 453. As a result, Athens was the natural "superpower" to call in. Phormio was dispatched with a fleet of 30 ships, the Ambrakiotes were driven out of Argos, Akarnanian settlers assumed the position formerly enjoyed by the Ambrakiotes, i.e., as

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σύνοικοι at Argos (Thuc. 2.68.5, 7) and the first treaty of alliance "between the Akarnanians and Athenians came about."[20]

For the first decade of the Peloponnesian War, the course of events for Akarnania is well known.[21] Athens, remembering the treaty made by Phormio, worked to gain the support of all the Akarnanian communities. To these allies whose ways were "old fashioned" they sent a familiar face--Phormio. In a real sense, he made himself the patron of the pro-Athenian parties. During the first years of the war, he helped to diminish the Leukadian peraia by capturing Sollion and giving it over to Palairos; in a wider sense, he made it his practice to support pro-Athenian factions wherever he could.[22] He seems to have built some sort of client-patron relationship with the Akarnanians; this relationship is reflected by their request that a son or relative of his be sent to them after Phormio's death.[23] Their desire for a family member, preferably a son, to act as Athens' representative was in complete accord with the personal way in which the Akarnanians dealt with one another, and with the kinship sensitivities which held them together as an ethnos.

Asopios, Phormio's son, tried to continue where his father had left off; he made an attempt to take Oiniadai and in frustration at his failure there, seems to have next turned to the Leukadian peraia for a quick success. At Nerikos, near Leukas, he lost his life.[24]

Politically, the Akarnanians had advanced little since the 450's; at least this is indicated by the unchanged nature of their defensive alliance. An event of 429 reveals exactly how it worked. The Ambrakiotes and various Epirote tribes persuaded the Spartans to equip a fleet

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and send an army to Akarnania in order to detach it from the Athenian alliance. A coordinated attack by land and from the sea, they argued, would hinder the Akarnanians on the coast from combining for their defense, and Akarnania would easily be brought over.[25] When the Akarnanians got wind of this plan, they took no combined measures for their defense and stayed where they were to protect their own territories. Even when the combined enemy army marched from the north to Stratos, the Akarnanians stayed put in their separate communities to await the fleet's arrival and to provide for their own individual defense. Only when they realized that the fleet was not coming did these Akarnanians apparently prepare to send reinforcements to Stratos.[26] By that time, the Stratians had already successfully averted the danger.

The following winter, Phormio died. As already mentioned, his son's death occurred soon thereafter, and for two years we hear nothing about Akarnania. Then in 426 and 425 we observe the concerted efforts of the pro-Athenian communities to purge the northwest of Korinthian colonial influence.[27] An allied attempt to reduce Leukas during the summer of 426 was at first begun and then broken off in favor of an attack on Aitolia. The Akarnanians were furious and withdrew from the allied army.[28] Nevertheless, that autumn they came grudgingly in relief to Naupaktos but only after Demosthenes had personally come to persuade them.[29] That winter the Peloponnesian army under Eurylochos combined with a force from Ambrakia in an unsuccessful attempt to take Amphilochian Argos.[30] After the Ambrakiotes suffered a twofold defeat--"the greatest disaster that befell any single Hellenic city in an equal num-

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ber of days in this war"[31]--Demosthenes tried to persuade the Akarnanians to take over Ambrakia. They were not persuaded. Thucydides' explanation is worth considering. "They now feared that if the Athenians got hold of the city, they would be worse neighbors (than the weakened Ambrakiotes)."[32] This reported Akarnanian fear of Athens is likely to be more Thucydides' own opinion of what was likely to have been the rationale (i.e., τὰ δέοντα; cf. Thuc. 1.22.1) for their refusal rather than what was really the problem.[33] Much more interesting than this reported fear of Athens is the Akarnanian expectation that Ambrakia would be held by the Athenians should it be captured. This fact was self-evident. The Akarnanians had no political mechanism by which they could hold a place outside their ethnos. Concessions had been made to include Argos, and σύνοικοι had been sent; the following autumn would find the Akarnanians settling οἰκήτορες from all over their territory to hold Anaktorion's lands (see below). But Ambrakia was too far away for this to be practicable, and as a result, Demosthenes' suggestion fell on deaf ears; they concluded matters with Ambrakia in their own way by making a 100 year treaty with them.[34]

Having secured a pledge of neutrality from Ambrakia, the Akarnanians turned to the expulsion of the Anaktorians. This they accomplished with Athenian help during the following autumn. Although the text of Thucydides is slightly corrupt, the sense of the passage is clear: the Korinthian settlers were expelled and Akarnanian settlers took their place and held the land.[35]

Within a year, the Akarnanians also managed to win over Oiniadai to

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the Athenian alliance and for a while, could be referred to as a unified people.[36] 424 saw the last raising of a combined Akarnanian army during the Peloponnesian War and it campaigned locally under Demosthenes against Salynthios and the Agraioi.[39]

Henceforth, no battles were fought on Akarnanian soil and these people accordingly drop out of our historical record. In 413, Demosthenes put in at Alyzeia and Anaktorion to raise a force of slingers and javelin throwers.[38] By this time, he too apparently enjoyed an Akarnanian following, for we hear that of those Akarnanians who went with him to Sicily, "some served partly for money, but most served out of friendship for Demosthenes and goodwill for their Athenian allies."[39]

As far as our sources allow us to tell, Akarnania changed very little, politically, in the generation following the Messenian capture of Oiniadai. We know that the major western communities were inhabited and we can guess that they were ruled by the heads of local leading families. We hear of a "tyrant" at Astakos, but this seems to have been exceptional, and Thucydides may simply be referring to the fact that this man had hired mercenaries to maintain his position as leading man. We hear of no civilian political offices in any of the individual communities or for the administration of the Akarnanian alliance. A general commanded the contingent from each major community; presumably the generals from all the communities jointly determined the actions of the allied army in the field,[40] and also set the stipulations required of the vanquished, although the army seems to have been consulted for its opinion.[41] Those who wish to speak of an "Akarnanian League" at this

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time may do so, although it would be more accurate and less misleading to retain the Greek word κοινόν. Not yet a developed federal government, this koinon (and it is not clear if the Akarnanians themselves yet used this term to describe their system) was still basically a mechanism which drew upon a common kinship awareness to organize an ad hoc army for the defense of the individual members of the ethnos.[42]

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Notes to Chapter III

[1] Seers in general were part of an international group and the participation of Megistes means nothing as concerns the Akarnanian ethnos; note that a Leukadian seer, Hippomachos, served with Mardonios (Hdt. 9.38.2).

[2] Salamis: Ambrakia sent seven ships, Leukas sent three (Hdt. 8.45.1); Plataia: 500 Ambrakiotes and 800 Leukadians and Anaktorians took part (Hdt. 9.28.31); cf. also the Greek thank-offering for victories in the Persian War, ML 27, coils 10-11.

[3] It is likely that the Messenians were settled at Naupaktos immediately following Tolmides' capture of the town in 456/5; cf. Oberhummer (1887 : 82-83).

[4] Paus. 4.25.3.

[5] See Thuc. 2.80.1, and text, pp. 295-96, for a clear example of the Akarnanian communities being fully expected to help each other--a fact even recognized by their Ambrakiote and Epirote neighbors.

[6] For the general view that there was a politically distinct "League" or "Confederacy" at this time, see Swoboda (1913 : 296 and n. 7), Busolt-Swoboda (1926 : 1463), and more recently Hammond (1967 : 497), and Larsen (1968 : 89-90).

[7] Busolt-Swoboda (1926 : 1465).

[8] Although I disagree with many of the particular examples given in Schwahn's description (1932 : 1194-95) of the Akarnanian sympoliteia, he does essentially agree with the above general interpretation. Cf. col. 1194: "Aber obgleich das Städtewesen bei den Akarnanen schon ziemlich ausgebildet war, kann ihr κοινόν noch nicht als ein sympolitischer Bundesstaat, sonder nur als ein loser Stammestaat betrachtet werden."

[9] Hammond (1967 : 496-97 and 497 n. 1) makes a good case for a date earlier than the 430's, but it is difficult to date the incident before Perikles' attack on Oiniadai (as Hammond does) since Diod. 11.85.2 tells us that Perikles πλὴν Οἰνιαδῶν ἁπάσας τὰς πόλεις προσηγάγετο. Why would it be necessary for Perikles to "bring over" the Akarnanian cities if there already existed some sort of recognized alliance?

[10] Thuc. 1.103.3, 108.5; Diod. 11.84.7; Paus. 1.27.5; Plu. Per. 19. See Oberhummer (1887 : 82), who sees this policy as an Athenian attempt to encroach on Korinth's northwest trade in the same way she had encroached on Aiginetan trade in the Aegean.

[11] Diod. 11.85.2: οὗτος [Perikles] δὲ τῆς Πελοποννήσου πολλὴν ἐ-

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πόρθησεν, εἰς δὲ τὴν Ἀκαρνανίαν διαβὰς πλὴν Οἰνιαδῶν ἁπάσας τὰς πόλεις προσηγάγετο. The phrase "all the cities" must be an exaggeration, but the result of the action was to deny Oiniadai the help she could expect coming on short notice from nearby communities.

[12] This interpretation rests on interpreting the events of Diod. 11.88 as a "doublet" of 11.85, and combining the two accounts into the description of one event. For the full literature on this matter, see Klaffenbach (1957 : XI).

[13] For this congress, see Plu. Per. 17; for its probable date (448?), see Klaffenbach (1957 : XI). An acknowledged alliance between the Akarnanian ethnos and Athens might help to explain why Perikles chose to invite this out of the way people to a Panhellenic meeting. Meiggs' warning (1975 : 153) should be kept in mind: "The Congress proposal makes good historical sense, but Plutarch's account gives rise to doubts. It should not be used as the main foundation for the reconstruction of these years."

[14] Thuc. 2.68.7: ... διδόασιν ἑαυτοὺς Ἀκαρνᾶσι ....

[15] Note that the Akarnanians were not the first people to be called in when Amphilochian Argos was experiencing difficulties--the Ambrakiotes were called in first.

[16] Hdt. 6.108.1.

[17] Thuc. 2.68.3; cf. p. 284.

[18] Ps.-Skylax 34.

[19] Strabo 7.7.7 quoting Ephoros = FGrH 70, F 123.

[20] Thuc. 2.68.8: μετὰ δὲ τοῦτο ἡ ξυμμαχία πρῶτον ἐγένετο Ἀθηναίοις καὶ Ἀκαρνᾶσιν.

[21] See Klaffenbach (1957 : XI-XIV).

[22] Cf. Thuc. 2.30.1; Euarchos was expelled from Astakos (he was called a tyrant probably because he hired mercenaries to effect his return to power; cf. Thuc. 2.33.1); cf. also 2.102.1, where it is reported that political troublemakers were expelled from Koronta, Stratos and other Akarnanian communities.

[23] Thuc. 3.7.1. The view of Busolt-Swoboda (1926 : 1462) that the Akarnanians had grown so dependent upon Athens that they requested a son or relative be sent to them as an archon ("also nicht bloß als Heerführer"), is unnecessary and implies a political office instead of a more personal position of patron. Thucydides uses the participle ἄρχοντα (κελευσάντων Ἀκαρνάνων τῶν Φορμίωνός τινα πέμψαι ἢ υἱὸν ἢ ξυγγενῆ

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ἄρχοντα) to indicate a military command. Cf. his usage of forms of this verb at 1.57.6; 2.80.4; 3.30.1; 3.114.4 [I do not believe, therefore, that a priori the use of this verb in the last passage implies that Xenokleides was sent to Ambrakia as a "special official;" cf. Graham (1964 : 137 n. 1)].

[24] Thuc. 3.7.3-5; cf. also pp. 189-90.

[25] Thuc. 2.80.1.

[26] Thuc. 2.82.1.

[27] See Klaffenbach (1957 : XII-XIV).

[28] Thuc. 3.94.2-95.2.

[29] Thuc. 3.102.3-4.

[30] Thuc. 3.102.6, 105-114.

[31] Thuc. 3.113.6.

[32] Thuc. 3.113.6.

[33] Cf. Thuc. 7.57.10 where the Akarnanians are quite well disposed toward both Demosthenes and the Athenians. Thucydides may also be reporting a temporary reaction expressed by the Akarnanians, but it seems possible that Thucydides saw the motivation for the Akarnanian refusal to attack Ambrakia colored by the Akarnanians' continued resentment over the events at Leukas, i.e., the realization that Athens' policy served Athens' interests first and the Akarnanians' interests second.

[34] Thuc. 3.114.3; the Akarnanians entered into a 100 year defensive alliance with the Ambrakiotes, the Ambrakiotes agreed to return all hostages and towns to the Amphilochian Argives and not to send aid to Anaktorion who was still at war with the Akarnanians.

[35] The OCT text of Thuc. 4.49.1 reads: ... καὶ ἐκπέμψαντες [Κορινθίους] αὐτοὶ Ἀκαρνᾶνες οἰκήτορας ἀπὸ πάντων ἔσχον τὸ χωρίον. Another possibility is to read the variant form οἰκήτορες and thus, there is no need to bracket Κορινθίους. The problem with this reading is the mildness of the expression ἐκπέμψαντες ("sending away") Κορινθίους ἀπὸ πάντων which should mean something like: "and expelling the Korinthians from everywhere ...." Perhaps it is best to leave the word Κορινθίους bracketed since the expulsion of the Korinthians is understood if the Akarnanians settled the land and "held" it. For a full discussion of the problem, see Graham (1964 : 133).

[36] Thuc. 4.77.2.

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[37] Thuc. 4.77.2.

[38] Thuc. 7.30.2, 5.

[39] Thuc. 7.57.10.

[40] This would explain why Demosthenes went to Sollion after withdrawing from Leukas in 426; see p. 205.

[41] After the first Ambrakiote-Peloponnesian defeat at Olpai in 426, the Spartan general sought out Demosthenes and the Akarnanian generals to recover his dead and arrange for a withdrawal (Thuc. 3.109.1). The generals publically refused before the whole army (i.e., in an assembly) to allow a withdrawal, but secretly came to terms with the Spartan commander to allow only the Peloponnesians to retreat (3.109.2). No one seems to have reproached them for this action at a later time (cf. 3.111.3-4). Accordingly, the generals (and in a less direct sense, the army) probably stipulated the peace terms granted to the Ambrakiotes (3.114.3) and concluded peace when they had been accepted (3.114.4). I do not agree with Swoboda (1913 : 296) that there probably was an assembly that met at Stratos; there was no need since "the assembly" was almost certainly the army. Since the army was only gathered for ad hoc situations, this applies to "the assembly" as well.

[42] The existence of a "common lawcourt" at Olpai is generally cited as evidence for the existence of an Akarnanian federal government during the second half of the fifth century. Swoboda (1913 : 296) even maintains that it adjudicated disputes between communities. Apart from Thuc. 3.105.1 (an ambiguous passage) this "common lawcourt" is completely absent from our historical record. Oberhummer (1887 : 93 n. 1) sanely observes that the geographical placement of Olpai (near Amphilochian Argos) is unsuitable for a "common lawcourt" for Akarnania, and that it should be considered as the lawcourt of the Akarnanian and Amphilochian Argive σύνοικοι. Furthermore, the use of the imperfect tense of the verb (ἐχρῶντο) with πότε implies that the action occurred "once" or "at one time" in the past, and does not imply that Olpai was being used as a federal court in Thucydides' day. If this is the case, the κοινὸν δικαστήριον really cannot be any part of some fifth century Akarnanian League. Since we never hear of this lawcourt again throughout the rest of Akarnanian history, it is likely that this court was only of local significance and that it functioned for only a limited period of time. For the literature on this matter, see Klaffenbach (1957 : XIV, lines 22-29).

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CHAPTER IV

The Fourth Century

It is generally agreed that during the fifth century, Akarnania took its place among the Hellenic peoples, and that during the course of the Peloponnesian War, the Akarnanians were introduced for the first time to the mainstream of Greek life.[1] The fourth century saw a continuation of this process, aided in large part by the reopening of the Leukas Canal, the resultant increase in maritime traffic along the west coast of the territory, and the increased prosperity brought about by the Timoleontic successes in Sicily.[2]

In the first quarter of the century we know only a few details. From 395 until c. 388, Akarnania was part of the anti-Lakedaimonian alliance.[3] Akarnanian contingents are mentioned in a battle fought at Nemea, and Athenian triremes were stationed at Oiniadai.[4] In retaliation for an Akarnanian attack on Kalydon, the Achaians (who were in possession of the place) called for Lakedaimonian assistance. When the Lakedaimonians sent Agesilaos with an allied army, the Achaians turned out a full levy, and all marched on Akarnania. The Akarnanian country dwellers fled to the cities for protection and all the livestock of the Akarnanians was removed from areas accessible to the invading army.[5]

When Agesilaos reached the borders of Akarnania, he sent εἰς Στράτον πρὸς τὸ κοινὸν τῶν Ἀκαρνάνων to tell them to desist from the Athenian and Boiotian alliance and to join the Lakedaimonians, otherwise, he

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would ravage their land and leave nothing untouched.[6] When it was clear that they had no intention of complying with his ultimatum, he began to carry out his threat. At first, he lulled the Akarnanians into assuming a careless attitude by advancing at an extremely slow pace. Thinking they were relatively safe under such an attack, they retrieved their livestock from the mountains and pastured it far from the invading army, near a "lake."[7] Agesilaos struck quickly; he marched at top speed to this lake, seized all this livestock and many slaves besides, and then sold it all on the following day. At this point, a large force of peltasts arrived which forced Agesilaos' army to move its camp into the plain. The next day, Agesilaos routed this force (and from Xenophon's account we see that it included hoplites as well) when it tried to oppose his march through the narrow pass leading away from the lake; in all, some 300 Akarnanians were killed. Having defeated what appears to have been the army of the koinon, the Spartan was now free to cut and burn at will. He also tried to take some of the Akarnanian poleis by assault, but was completely unsuccessful in this attempt. Since it was autumn by now, he led off his army through Aitolia.[8]

At the beginning of the following spring, Agesilaos returned to Akarnania and threatened to destroy the grain which had been planted after his departure the previous autumn. Since their livelihood was based completely on agriculture and husbandry, the Akarnanians fully recognized that the destruction of their grain crop would be as bad as their being besieged by an army: νομίσαντες διὰ τὸ ἐν μεσογείᾳ σφίσι τὰς πόλεις εἶναι ὁμοίως ἂν πολιορκεῖσθαι ὑπὸ τῶν τὸν σῖτον φθειρόντων,

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ὥσπερ εἰ περιεστρατοπεδευμένοι πολιορκοῖντο.[9] They accordingly joined the Lakedaimonian alliance and made peace with the Achaians.[10]

We are extremely fortunate that Xenophon decided to include this episode in his history because at one stroke it tells us the nature of Akarnania's economy and the nature of the settlement pattern--matters which are discussed elsewhere. This episode is also the earliest mention we have of the κοινὸν τῶν Ἀκαρνάνων. The exact nature of this koinon is difficult to ascertain. All we know from the passage is that Agesilaos sent his ultimatum to it and that it was located at Stratos. There can be no doubt that some official body existed at Stratos which represented the Akarnanian poleis in some way, or at the very least, provided the mechanism to relay the ultimatum to the separate communities. This body has been interpreted by many scholars as a full-blown federal council composed of delegates from the individual Akarnanian poleis.[11] Such a view however, conjures up visions of a highly developed federal state which is simply not supported by the rest of our available evidence.

First and foremost, the individual character of the Akarnanian poleis during most of the fourth century is not consistent with the view that the Akarnanians possessed, at that time, a developed federal government. This individualism is expressed through their separate foreign policies and is reflected by the manner in which the Akarnanians are represented in our epigraphical record. From 388 to 375, the Akarnanians do seem to be united in their participation in the Lakedaimonian alliance. But in 375, the Athenian Timotheos arrived in the area to

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convince (among others) τὰς [πόλεις] κατὰ τὴν Ἀκαρνανίαν to give up the Lakedaimonian alliance. The Spartans sent Nikolochos with a fleet to confront Timotheos in the Ionian Sea, and a battle was fought περὶ Λευκάδα. The Athenians prevailed and set up a trophy at Alyzeia, their fleet's base. Then, after being reinforced with some Ambrakiote ships, Nikolochos again offered battle (presumably somewhere outside Kastos Island) but Timotheos did not accept. The Lakedaimonians thereupon set up their own trophy ἐν ταῖς ἐγγυτάτω νήσοις (probably on Kastos) before sailing away.[12]

It is noteworthy that Timotheos is not recorded as dealing with the federal κοινὸν τῶν Ἀκαρνάνων in trying to detach them from the Lakedaimonian alliance. The fact that he was dealing with the individual poleis emerges clearly from the text of the treaty made between the Akarnanians and the Athenians which resulted from this episode:

> ... ὅτι δοκεῖ] τῆι Βουλῆι ἀναγράψαι τῶν πόλεων τ[ῶν ἠκουσῶν τὰ ὀ]νόματα ἐ[ς]
> τὴν στήλην τὴν κοινὴν τῶ[ν συμμάχων τὸν] γραμματ[έ]α τῆς βουλῆς, καὶ ἀποδοῦνα[ι τοὺς ὅρκους τα]ῖς πόλε[σι]
> ταῖς ἠκούσαις τὴν βουλὴν [καὶ τοὺς στρατηγοὺς καὶ το]ὺς ἱππέας ....[13]

This situation is emphasized three years later when Iphikrates sent military aid to ταῖς ... φιλίαις πόλεσιν ... εἴ τίς τι δέοιτο; Xenophon expressly mentions that the Thyrreians were hostile.[14] We can ssume with a fair degree of certainty that this city, at least, was not among those who originally joined the Athenian alliance.

This individual character of the Akarnanian poleis is also revealed

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in two theorodokoi lists we possess from Epidauros and Argos.[15] In both lists, men are recorded from numerous individual Akarnanian poleis; that is, one man does not represent the Ἀκαρνᾶνες as a unified group. Since the duty of the theorodokos was to represent personally the government of a given territory in aiding the theoroi in their journey within its boundaries, we must assume that the Akarnanians did not conceive of themselves primarily as a federal state.[16] This is clear when we note the difference in the listings of other peoples. The Makedonians have one representative--their king.[17] This seems to be true also for the Molossians, a tribal group who viewed themselves as a koinon at this time.[18] As a rule, independent cities or tribes are listed separately; thus, in the Epidaurian list, the entries for Epiros, inscribed c. 360-355, show them "still in the tribal stage, organized under the three main tribes, Thesprotoi, Molossoi, and Chaones ...."[19] But in the Argive list, inscribed c. 330, the tribal names have been replaced by that of the Molossian monarch Kleopatra, who was, at that time, the sovereign authority for the previously independent Thesprotoi, Molossoi and Chaones.[20] Even by c. 330 therefore, it seems that the Akarnanians did not view their koinon as a federal government with any real sovereignty over the individual Akarnanian poleis.

Such a fact is in perfect keeping with the individual foreign policies of Anaktorion and Alyzeia evidenced by their contributions to the Boiotians for the "Sacred War" against the Phokians.[21] To those who believe a developed Akarnanian federal state or League existed at this time, these contributions pose a problem. One must then assume that the

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Akarnanians had withdrawn from the Second Athenian Confederacy, or that Anaktorion and Alyzeia had withdrawn from the Akarnanian League. Since there is no direct evidence to support either supposition, when had this occurred? Some scholars believe that the Akarnanians seceded soon after joining the alliance because Ἀκαρνᾶνες are mentioned as having participated in Epaminondas' invasion of the Peloponnesos in 370/69.[22] Oberhummer dates the Akarnanian withdrawal from the Confederacy to 361 when the Kerkyraians seem to have seceded.[23] And Bengtson believes that the Akarnanians belonged to both the Boiotian alliance and Athenian Confederacy at the same time.[24] If we can unburden ourselves of the concept of a unified Akarnanian federal state or League and see the separate poleis in control of their own affairs, our sources present no problem. This is especially so when it is understood that our sources frequently refer to Akarnanians, whether from one or more poleis, by the collective ethnic (οἱ) Ἀκαρνᾶνες.[25] The plural form of the ethnic, therefore, should not be equated with an Akarnanian federal government or League; accordingly, some Akarnanians could still have been members of the Athenian Confederacy in 370/69 while others served with Epaminondas. For this same reason, the Akarnanians who received honors at Athens following the defeat at Chaironea in 338 asked not to be listed simply as Ἀκαρνᾶνες on the honorific stele; instructions were given to write under each man's name the name of his city.[26] During most of the fourth century, it seems that the average Akarnanian thought of himself primarily as a citizen of such-and-such a polis, and secondly, as a member of the Akarnanian koinon.

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If the Akarnanians of the fourth century did not recognize a federal government with sovereignty over their individual poleis, what then, was the nature of the κοινὸν τῶν Ἀκαρνάνων located at Stratos in 391/389? The term κοινόν is not extremely revealing. The first secure incidence of it in an Akarnanian epigraphical text does not occur until the late third century; at that time it is used to denote the federal government and, in a more restricted sense, the federal assembly.[27] Since this assembly is also called οἱ χίλιοι, a name implying some sort of restricted membership, it is thought to have been composed of men with at least the hoplite rating--i.e., an army elite.[28] Is this the body to which Agesilaos sent his ultimatum? Perhaps; yet, had the hoplites assembled at Stratos to deliberate the ultimatum, it would seem peculiar that they decided to resist and then broke up to return to their individual poleis.[29] The normal meaning of κοινόν in such a context would be "league" or "common government," and this is probably what Xenophon means in using it here. It has been shown already that the powers of this "league" were not very wide, yet the existence of an Aristotelian Ἀκαρνάνων Πολιτεία implies that it possessed some (constitutionally?) defined powers.[30]

As we have seen, the Akarnanian poleis freely pursued their own individual affairs during most of the fourth century. Nevertheless, throughout their history, these poleis display a consistent tendency to join together for a common, and thereby strengthened, defense of their territory when presented with an external threat. The fact that no unified Akarnanian policy can be detected during the 360's, '50's or early

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'40's is directly due to the absence of any particular threat.

But c. 389 this was not the case. The Akarnanians presumably knew of Agesilaos' intended plans sometime before his army arrived at their border. As in the past, the poleis were preparing to join together for their common defense. The mechanism whereby this process of "joining together" was carried out can only be surmised. Presumably messengers were sent from polis to polis to summon the leaders and notify the army contingents. Since we see this process of common government operative only during emergency situations, I prefer to see the fourth century κοινὸν τῶν Ἀκαρνάνων as the army (and perhaps only the opinions of the hoplites were solicited), its leaders, and the mechanisms which existed for summoning it, keeping it fed and for relaying its decisions to external governments or other interested parties.[31] One must keep in mind that the bonds which united this koinon were a strong sense of kinship and the basic desire to preserve all members of one's ethnos. Nevertheless, the true seat of the Akarnanians' political life resided with the poleis. For this reason it is impossible to detect a foreign policy of the koinon during much of the fourth century. Our sources may tell us that "the Akarnanians" did one thing or another, but in reality, each action was decided by the individual poleis, and as we have seen, these poleis did not always agree.

When Philip marched against Ambrakia in 343/2, the Akarnanians apparently called for Athenian help and a force of troops was dispatched to them.[32] Since our sources, as has been noted, frequently lump the poleis of Akarnania under the term οἱ Ἀκαρνᾶνες, it is difficult to

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tell if this summoning of Athenian help was a move of the κοινόν τῶν Ἀκαρνάνων or not. If we can trust Aischines' report that Demosthenes boasted he had persuaded πάντας Ἀκαρνᾶνας to promise a levy of 2000 hoplites, the Akarnanians may have truly been unified under the threat posed by Philip.[33] This feeling (if it existed) did not last; only a small number of Akarnanians stood with the Athenians at Chaironea--the men who later chose to be honored according to their cities, not their koinon.

After Chaironea, life continued without many noticeable changes for the Akarnanian communities. The only noticeable political effects were the exile of those who fought against Philip with Athens and the probable participation of the Akarnanians in the congress of Hellenic states which met at Korinth.[34] From what we know of the oaths sworn by member states, the Akarnanians must have welcomed this alliance with open arms. If the oaths were kept, the Makedonians promised to oversee an alliance which strictly preserved the status quo. Timoleon's successes in Sicily had opened up new markets and opportunities in the west; trade was flowing along the Akarnanian coast; and the effects of prosperity were increasingly being felt.[35] The status quo must have looked pretty rosy. It is no wonder therefore, that Makedonia quickly replaced Athens as the Akarnanians' major ally and protector, especially when Aitolia began to flex her muscles.

Such an occasion occurred in 330 when the Aitolians attacked Oiniadai, captured it and expelled some of the Akarnanian inhabitants.[36] Had Alexander lived, the people of Oiniadai would have surely recovered

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control of their lands and their polis through his agency, and although his death allowed the Aitolians to maintain control of the area for a few more years, the people of Oiniadai had apparently recovered control of it by 314.[37]

There was a true failure of harvests in this area between 330 and 326 which affected peoples throughout northwestern Greece. Since the Akarnanians had apparently grown what they consumed in the early fourth century (thus their concern when Agesilaos threatened to destroy their crops) and presumably continued to do so in the 330's, the famine of the early 320's (in Akarnania at least) was one of harvest failure, not "price inflation, bad distribution and profiteering."[38] Kyrene sold Palairos 10,000 medimnoi and Leukas 15,000 medimnoi of grain. The cargo for Palairos would have filled more than 23 vessels the size of the Kyrenia ship, and would have cost somewhere around 36,617 Akarnanian minted staters at the normal price of five drachmas per medimnos.[39] This shipment, therefore, probably does not represent a supply of grain solely for Palairos, but rather the total amount of grain merchants from Palairos were going to sell to buyers all over Akarnania. That this grain was distributed through one city (as seems likely) points up the likelihood that by the early 320's, the Akarnanians still lacked the sufficient organization at the federal level to arrange such a purchase in the name of the koinon.

After Alexander's death, the people of Alyzeia fought as allies of the Athenians in the Lamian War.[40] So also did Akarnanians of the southeast who had apparently been allowed to stay in the area controlled by

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Aitolia.[41] These Akarnanians fought because "all Aitolia" fought. Why the people of Alyzeia chose to oppose Makedonia is not reported, but it is misleading to say that they could do so because they were not members of the "Akarnanian League" during most of the fourth century.[42] Complex relationships beyond our ability to recover were no doubt involved; nevertheless, we may be certain that Alyzeia and Leukas were concerned for the protection of the trading lane off the Akarnanian coast and up through the canal area.[43] Athens, still the major Greek naval power, may have been seen by some as more able to provide this protection.

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Notes to Chapter IV

[1] See in particular Oberhummer (1887 : 116-18).

[2] I have intentionally chosen not to discuss in detail the evidence of the Akarnanian "federal" coinage because interpretations of its developments have traditionally been based on dismally poor interpretations of Akarnanian history. Cf. especially Babelon (1932 : 1-119) and Weil (1880 : 121-30). Imhoof-Blumer's study (1878), excellent for its time, is now out of date; this remark also applies to Head's cautious review of Akarnanian history (1911 : 328-29). In order to use the history of a people to help fine tune the chronology of their coinage, that history must first be established on solid ground. Such has not been the case with the study of Akarnanian coinage. One example will serve to represent the general condition: the date of the reformed League has been downdated some 20 years from the date commonly given in the literature (250 B.C.) for the first coins minted by this new League; cf. in particular Caspari (1917 : 169). The subject of Akarnanian coinage is long overdue for a complete reevaluation.

[3] Diod. 14.82.3; we are also told that Leukas and Ambrakia were members (Xen. Hell. 4.6.1-4). Acute hostilities between Akarnania and Leukas must have subsided somewhat, but note that Akarnania allied with Athens, and Leukas allied with Korinth. This does not imply a close feeling of unity between Akarnania and Leukas. In fact, we hear nothing of Leukas during the Korinthian War. See Oberhummer (1887 : 119). The exact chronology is not clear; cf. n. 80, p. 131.

[4] Xen. Hell. 4.2.17, 4.14.

[5] Xen. Hell. 4.6.1-4.

[6] Xen. Hell. 4.6.4.

[7] Xen. Hell. 4.6.6; for the arguments concerning the location of this "lake," see Oberhummer (1887 : 120 n. 2) who opts for the present Lake Amvrakia. Oberhummer also concludes that Akarnanians controlled the whole floodplain of the Acheloos from the river to the lagoon near Mesolongi; he is probably correct in this view.

[8] Xen. Hell. 4.6.6-14.

[9] Xen. Hell. 4.7.1.

[10] Concerning this episode, cf. also Xen. Ages. 2.20; Plut. Ages. 22; and Klaffenbach (1957 : XV-XVI).

[11] For this view, see especially Busolt-Swoboda (1926 : 1463-64), Swoboda (1913 : 296-97), Kirsten (1940 : 312), and Larsen (1968 : 91).

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[12] Diod. 15.36.5. It seems that the Athenians dedicated at Delos some rams taken during this battle; cf. Inscr. Delos, 1446, lines 21-22. On these events in general, see Klaffenbach (1957 : XVI, lines 19-69).

[13] Tod 126 = IG II/III^2, 96, lines 12-17. The treaty also included the poleis of the Kerkyraians and the Kephallenians. (Note that Tod, pp. 83-84, incorrectly translates "states" for "cities.") Although it is clearly stated that the names of the poleis are to be inscribed on the stele of the allies, the Akarnanians are lumped under the ethnic heading Ἀκαρνᾶνες (Tod 123, line 106) presumably to save space. It is noteworthy that the form κοινὸν τῶν Ἀκαρνάνων was not employed, when the Kerkyraians are listed as [Κερκυ]ραίων / [ὁ δ]ῆμος (lines 97-98).

[14] Xen. Hell. 6.2.37.

[15] For the list from Epidauros (IG IV 1^2, 95, lines 8 ff.), see especially Hiller (1925-26); for the Argive list, see Charneux (1966).

[16] For this interpretation of the duties of the theorodokos, see Charneux (1966 : 168).

[17] IG IV 1^2, 94, line 9.

[18] IG IV 1^2, 95, line 31; cf. also on this inscription and its interpretation for Epiros, Hammond (1967 : 517 ff.).

[19] Hammond (1967 : 518).

[20] Charneux (1966 : 157, col. I, line 11).

[21] Cf. Tod 160, lines 7, 16-17. The inscription has been dated to the period 356-351; cf. Klaffenbach (1957 : XVII, lines 25-38).

[22] Xen. Hell. 6.5.23; Ages. 2.24; cf. Klaffenbach (1957 : XVI).

[23] Diod. 15.95.3; Aen. Tact. 11.13 ff.; Oberhummer (1887 : 127-28).

[24] Bengtson (150 : 260).

[25] Cf. for example the use of Ἀκαρνᾶνες by the Athenians on their stele recording the allies of the Second Athenian Confederacy (see n. 13). Thuc. 2.68.7 refers to the first treaty made between the "Akarnanians" and the Athenians when it is certain that Oiniadai was not included. Perhaps the most striking example of this natural tendency is found in Diodoros' account of Kassander's advice to "the Akarnanians" to move into a few cities on the eastern border of their territory (Diod. 19.67.3-5; see p. 322 and n. 10.

[26] Tod 178 (= IG II/III^2, 237), lines 33-35:

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... ἀναγ[ράψ]αι δὲ κ[α]ὶ τὰ ὀνόματα τῶν Ἀκαρ-
[νάν]ων εἰς τὴν αὐτὴ[ν στή]λην, ὑπογράψαντα τὰς πόλει-
35 [ς τῆ]ς Ἀκαρναν[ίας ὧν εἰς ἕ]κ[ασ]τός ἐστιν ....

[27] Cf. IG IX 1^2, 583, line 53 where it refers to the assembly; since the term κοινόν is used in a number of contexts, it would be slightly more accurate to translate it by some phrase like "the sovereign authority of the citizenry," i.e., the federal government. Cf. line 67 where the koinon might be equated with the federal treasury, and line 45 where the koinon (i.e., the federal government) is responsible for putting on the festival of Aktian Apollo.

[28] See in particular Busolt-Swoboda (1926 : 1466 with n. 1).

[29] We know from Xen. Hell. 4.6.6 ff. that the hoplites and peltasts first engaged Agesilaos almost twenty days after he had crossed the border into Akarnania. Assuming they had been assembled at Stratos to deliberate the ultimatum, we must account for almost twenty days of inactivity on the part of the army while Agesilaos was systematically ravaging their land. If the army had not dispersed during this time, what had it been doing?

[30] Rose F 474, 475 (= Strabo 7.7.2; and Schol. in Pind. Nem. 3.27); cf. Busolt-Swoboda (1926 : 1464 n. 2) and Swoboda (1913 : 297 n. 1) who give more power to the Akarnanian koinon than is warranted by our sources.

[31] These are essentially the functions ascribed to the fifth century koinon by Busolt-Swoboda; see p. 292 with n. 7. During the fourth century, bronze coins were issued, apparently from Stratos, with the mongrams ΑΡ and ΑΡ. If these are federal issues, as seems likely, the koinon was presumably the authority which directed their minting. Perhaps originally minted to pay the army, the issues were produced throughout the fourth century as the principal bronze coinage of Stratos. Cf. Imhoof-Blumer (1878 : 15-16), but cf. also my n. 2.

[32] Dem. 48.24, 26.

[33] Aeschin. 3.97-98. The large number of hoplites promised is significant and does imply that the combined forces of the Akarnanians were being pledged. On this matter, see Busolt-Swoboda (1926 : 1466 n. 1).

[34] Cf. Tod 177, line 30 where the collective name Ἀκαρνάνων is restored on the stele bearing the names of those Greeks who participated in Philip's Panhellenic League; but not that the name is restored without absolute certainty. If the restoration is correct, the total number of representatives and the method by which they were selected from the Akarnanian communities is not known.

[35] See Appendix F, pp. 474 ff.

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[36] Diod. 18.8.6; Plu. Alex. 49; for the time, see Schwahn (1932 : 1195).

[37] Perhaps they recovered control of the place in 321; see Kirsten (1937 : 2212), and (1940 : 314).

[38] Westermann (1930 : 17 ff.); of course these factors aggravated an already bad situation.

[39] For the Kyrenia ship in general, see M. Katzev, National Geographic (1970) 841-57. M. Katzev has told me that R. Steffy believes that the boat was originally some 47 feet long (14.3 m) with a carrying capacity of about 28 tons. Casson (1971 : 183-84) believes the normal size for an ocean going ship was considerably larger--about 120 tons. At present, the opinions of many nautical archaeologists are divided between two theories: 1) that the normal size for a cargo ship was about 120 tons burden as Casson suggests, and 2) that the normal size for a cargo ship was considerably less than those whose size chance has recorded. C. Eiseman (who is of the latter opinion) has told me that the Porto Cello ship was (again according to R. Steffy) "a few tons" larger than the Kyrenia ship--i.e., about 30 tons burden. I have computed the figures which appear in the text as follows: If Tod (1948 : 276) is correct that the Aigenetan standard was employed here, the 10,000 medimnoi Palairos got equalled 15,000 medimnoi of the Attic standard. Since we know from various sources that one medimnos normally cost five Attic drachmas [cf. Zimmermann (1974 : 101)] at this time, the total cost in Attic money equals 75,000 drachmas. Since one Attic drachma of this period weighed about 4.15 grams of silver [cf. P. Gardner, A Catalogue of Creek Coins in the British Museum: Attica, Megara, Aegina (rpt. Bologna, 1973) 15, nos. 155-57], 75,000 = 311,250 grams of silver bullion. This can be coined into 36,617.65 Korinthian-type staters @ 8.5 grams. In bulk weight, this amount of silver weighs about 834.45 pounds (i.e., with 373 grams = one pound). The cargo weight would have been about 660 tons [one Attic medimnos = 40 kg; cf Casson (1971 : 185)].

[40] Diod. 18.11.1.

[41] Cf. Paus. 1.25.4; Oberhummer (1887 : 134 and n. 1); Swoboda (1913 : 298 n. 4). From Diod. 18.11.1 we know that all the Aitolians "as it is said" were the first to join the alliance against the Makedonians.

[42] Cf. Swoboda (1913 : 298)--the implication being that the "Akarnanian League" stood by its ally Makedonia. Such a unified League did not obviously exist.

[43] According to Diod. 18.11.1, Leukas also joined the anti-Makedonian alliance.

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CHAPTER V

Post-Alexander: Kassander and the Κοινόν

After the death of Alexander, the Aitolians presented more and more of a threat to the independence of the ethnos. This point was fully explained to them by Kassander in 314. Aitolia had been providing a fertile area in which the agents sent by Antigonos could stir up trouble for the ruler of Makedonia. Kassander, for his part, realized that Akarnania could provide a useful base close to Aitolia. Thus, an Akarnanian-Makedonian alliance was the obvious outgrowth of an Aitolian-Makedonian enmity.

According to Diodoros, our source for this episode, Kassander marched from Makedonia with a large force and encamped on the Kampylos River in upper Aitolia.[1] From here he summoned the Akarnanians to come to a κοινὴν ἐκκλησίαν. Why he did not descend into Akarnania has been a much debated point. Oberhummer rejects the validity of Diodoros' account here; for him, it is inconceivable that an Akarnanian League meeting would be held in the middle of Aitolia.[2] Woodhouse accepts the account and explains that Kassander's position was strategically placed "to paralyze Aetolian opposition while the concentration of the Akarnanian villagers was effected."[3] I believe this is only part of the truth. Kassander meant to impress upon the Akarnanians the fact that he was fully able to defend their interests against Aitolia. Therefore, he

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staged a dramatic show of strength by summoning what was essentially a meeting of the Akarnanian koinon to convene in Aitolia.[4] If this view is correct, it dramatically points out the military nature of the κοινόν τῶν Ἀκαρνάνων at this date. The Akarnanians were then at war with the Aitolians and only those able to defend themselves would have dared to travel into Aitolia to meet with Kassander. This meeting also reveals the flexible, non-institutional nature of the κοινὸν τῶν Ἀκαρνάνων. Oberhummer's amazement is quite to the point; it is both remarkable and significant that the koinon could meet anywhere--even in the middle of Aitolia.

This meeting with Kassander has been viewed for various reasons as a turning point in Akarnanian history. Swoboda believes it marks a reorganization of the koinon and the development of a sense of federal citizenship.[5] Kirsten believes it marks an experimental attempt to "synoikize" from a large number of unfortified villages into a few walled cities.[6] The views of the latter scholar have been discussed elsewhere, but a few words should be said here concerning Swoboda's opinions. Swoboda points to the organization revealed in the treaty made between Akarnania and Aitolia 50 years later as the end result of his posited reorganization.[7] But since we have no accurate knowledge of the officers of the koinon before this date, it is unwise to assume that some reorganization occurred at this time. In fact, the officials of the koinon revealed by the treaty are perfectly appropriate to the nature of the koinon we have observed throughout the fourth century. The federal army was led by a command of at least seven στρατηγοί and a ἵππαρχος.

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Other officials included a ταμίας and a γραμματεύς, and all were termed collectively οἱ ἄρχοντες.[8] Officials called οἱ σύνεδροι are thought by Swoboda to have formed a council, but since they are listed with the generals and are equated with the ἄρχοντες τῶν Αἰτωλῶν, they may have been no more than the other officials who "preside with" the generals, i.e., the secretary, the treasurer and the commander of the cavalry.[9] Even if these σύνεδροι formed a true council, we know so little about the exact organization of the fourth century koinon that there is no reason to assume this council was created in 314. The board of generals has been observed as early as 426; the existence of a ἵππαρχος, though not previously mentioned by our sources, fits perfectly well in a militarily oriented koinon such as existed in the fifth and fourth centuries, as do a secretary and a treasurer. Some sort of secretary would have been necessary to draw up the 100 year treaty made with Ambrakia in 426, and the treasurer presumably had something to do with the federal mint which produced coins at Stratos during the fourth century. It is unnecessary, therefore, to assume some sort of institutional reorganization of the koinon resulting from this meeting with Kassander.

I do believe Swoboda's other observation is a valid one. The concept of federal citizenship exhibited in the treaty (see below) is a radical departure from the polis-sovereignty operating during most of the fourth century. The development and growth of the concept of federal citizenshp rights, and thus the growth of the federal government's sovereignty relative to that of the poleis, could not have resulted immediately as a direct result of a meeting with Kassander, as Swoboda

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suggests. Its growth was a more gradual process--the result of the constant, increasing threat posed by their hostile neighbor Aitolia. More than Kassander's initial advice to "metoikize," it was the disastrous failure of his plan to provide for their defense that resulted in the increased role of the κοινὸν τῶν Ἀκαρνάνων.

The plan was a simple one; Kassander merely advised the communities which bordered on Aitolia to "metoikize" into a few well defended poleis.[10] As a result of this advice, the people of Oiniadai left their town and moved to Sauria; others congregated at Stratos and Agrinion. Soon after Kassander had departed from Aitolia, the Aitolians staged their own dramatic show of strength; they captured Agrinion, granted the Akarnanian inhabitants safe conduct to leave and then slaughtered most of them as they departed (Diod. 19.68.1). Whether or not the people of Oiniadai were again in possession of their town in 313 as some scholars believe, Kassander's plan had been a disastrous failure.[11] Nevertheless, in light of the Aitolian treachery at Agrinion, no one in Akarnania could ignore the serious danger facing them in Aitolia.

In 312, Diodoros tells us that Kassander sent a general to Akarnania. What he did there and how long he stayed are not recorded.[12] We hear nothing directly about Makedonian-Akarnanian relations until 294 when Kassander's son Alexander ceded some sort of right over Akarnania to Pyrrhos in return for military assistance against his brother.[13] The nature of this right must have been very loose, or perhaps it had ceased to exist by 281 when an unedited inscription records an agreement made between the apparently autonomous Akarnanian federal state and King

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Pyrrhos.[14]

During the years of Pyrrhos' rule, Akarnania apparently continued to prosper, benefitting from the flow of trade from Greece to southern Italy and Sicily, and from the temporary cessation of conflicts with Aitolia.[15] It is also probable that the Akarnanian League was augmented by the addition of Leukas. Exactly how and when this event occurred is not recorded, and it has been variously interpreted. Our terminus ante quem is provided by the Aitolo-Akarnanian treaty of c. 262 (IG IX 1^2, 3A) which lists a general of the League as coming from Leukas (line 24). It is also likely that Leukas was given along with Kerkyra to Pyrrhos as a dowry for Lanassa by her father Agathokles c. 295. When Lanassa left Pyrrhos and took up with Demetrios Poliorketes, it seems that Demetrios managed to recover Lanassa's dowry, probably in 290. Pyrrhos regained Kerkyra in the following year and although it is not mentioned in our sources, probably also Leukas.[16] Those who believe Akarnania was "freed" from Pyrrhos by Lysimachos in 283 think that Leukas was "freed" too, and at this time joined the Akarnanians.[17] Swoboda argues that Leukas remained in Pyrrhos' hands until his death, and Cross believes that Pyrrhos himself may have been responsible for the union.[18] Our lack of evidence allows for no precision, but it is self-evident that Leukas would have become a member of the League immediately following Pyrrhos' death if she had not already been one.

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Notes to Chapter V

[1] Diod. 19.67.3-5; for the location of this meeting, see Woodhouse (1897 : 301-302).

[2] Oberhummer (1887 : 137 n. 1).

[3] Woodhouse (1897 : 302).

[4] Cf. Busolt-Swoboda (1926 : 1466 n. 1) who notes that Diodoros' word ἐκκλησία is an official term used by the Akarnanians in their inscriptions to refer to the assembly.

[5] Swoboda (1913 : 298-99 with n.3, p. 299).

[6] See Appendix D, pp. 446 ff.

[7] IG IX 1^2, 3A; the officials are listed in lines 14, 22-25 and 34.

[8] All are listed after the inclusive words ἐπὶ ἀρχόντων (line 16) ... ἐν δὲ Ἀκαρνανίαι (line 22).

[9] The existence of a συνέδριον/βουλή is revealed by two inscriptions of the late third century (IG IX 1^2, 582, line 4; 583, lines 3-4), but it may be unwise to cite these examples in support of the existence of a council in c. 262. As will be shown, there is a distinct break in the history of the κοινὸν τῶν Ἀκαρνάνων during the middle decades of the third century; continuity of institutions within the koinon cannot be automatically assumed. One example will suffice; the board of generals was altered when the League was reestablished--henceforth there was only one general. See below.

[10] For Kirsten's erroneous suggestion that Kassander's advice applied to all of Akarnania, see Appendix D, p. 448; otherwise see Oberhummer (1887 : 137 n. 2).

[11] For the various views on the status of Oiniadai, see Klaffenbach (1957 : XIX); Oberhummer (1887 : 137) believes that the Aitolians still held the town.

[12] Diod. 19.88.2.

[13] For Oberhummer's view of the relations with Kassander during these intervening years, see Oberhummer (1887 : 139-42). Our source for the legal relationship between Akarnania and Makedonia is Plu. Pyrrh. 6: ἐπελθὼν ὁ Πύρρος ᾔτησε μισθὸν τῆς συμμαχίας [with Alexander of Makedonia] τήν τε Στυμφαίαν καὶ τὴν Παραυαίαν τῆς Μακεδονίας καὶ τῶν ἐπίκτητων ἐθνῶν Ἀμβρακίαν, Ἀκαρνανίαν, Ἀμφιλοχίαν. προεμένου δε τοῦ νεανίσκου ταῦτα μὲν αὐτὸς εἶχε φρουραῖς καταλαβών. For G.N. Cross' evaluation of

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the meaning of ἐπίκτητον ἔθνος, see Cross (1932 : 129-30): "... the relationship was not merely one of alliance between nominal equals, but there was, even in theory, some admitted dependence, confirmed possibly by the presence in some cases of a resident (epimelete) of king Cassander and of some Macedonian troops. Such a dependence would not, of course, necessarily involve any interference with the form of local constitutions." For a different view, see Oberhummer (1887 : 142) who takes up Unger's view [Philologus 43 (1884) 205] that Ἀκαρνανίαν is a corruption for either Ἀθαμανίαν or Ἀτιντανίαν. Since we know so little about Akarnanian-Makedonian relations, it is perhaps rash to alter a text which shows no grammatical sign of being corrupt; cf. Beloch (1925 : III.2,319).

[14] IG IX 1^2, 207. This inscription has led Klaffenbach [(1957 : XIX, lines 94-102) and (1955 : 48-49)] to conclude that Lysimachos freed Akarnania from Epirote control in 283. Thus, he argues, Pyrrhos sought to secure his rear before leaving for Italy; Pyrrhos also wanted to secure a force of Akarnanian mercenaries for his expedition (cf. Dion. Hal. Ant. Rom. 20.1.2, 3.6). See Cross (1932 : 130 and n. 1) for the argument that Akarnania's relationship with Pyrrhos probably remained static until his death. Hammond (1967 : 569) interprets the tie between Pyrrhos and the Akarnanians as a personal one--one in which the Akarnanians owed him allegiance in a defensive war. Nevertheless, this relationship was such that Pyrrhos did not have the right to mobilize Akarnanian forces for his expedition; therefore, he arranged to take mercenaries. Cross does not discuss the inscription noted above, but he would probably argue that it merely shows Pyrrhos' control over Akarnania did not negate its existence as an autonomous federal state.

[15] Pyrrhos' relations with the Aitolians were quite cordial. His friendship with Aitolia and nebulous authority over Akarnania probably had a soothing effect on Aitolo-Akarnanian relations. We have no evidence of any border warfare between these two ἔθνη during these years.

[16] For the general history of Leukas during these years, see Swoboda (1910 : 401-402) and more recently, Rondoiannis (1980 : 165-67). For the dowry of Lanassa, see Plu. Pyrrh. 9. Demetrios' capture of Kerkyra and Leukas has been inferred from a fragment of Democharis preserved in Athenaios 6.253.b, c = FGrH 75, F 2: ἐπανέλθοντα δὲ τὸν Δημήτριον ἀπὸ τῆς Λευκάδος καὶ Κερκύρας εἰς τὰς Ἀθήνας οἱ Ἀθηναῖοι ἐδέχοντο οὐ μόνον θυμιῶντες καὶ στεφανοῦντες καὶ οἰνοχοοῦντες .... For Pyrrhos' speedy recovery of Kerkyra, see Paus. 1.11.6, 12.1 and Just. Epit. 25.4.8; cf. also Beloch (1925 : III.2,313).

[17] Cf. especially W.W. Tarn, Antigonus Gonatas (Oxford, 1913) 120 with n. 20; and Klaffenbach (1957 : XIX, lines 100-102).

[18] Swoboda (1910 : 402); Cross (1932 : 132 n. 1).

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CHAPTER VI

The Treaty with Aitolia and the Partitioning of Akarnania

Apparently the soothing effect of Pyrrhos on Akarnanian-Aitolian relations lasted after his death. We hear of no border warfare between these two peoples following the events of 272; in fact, a decade later, we are faced with perhaps the most bizarre event of Akarnania's entire history--a treaty seemingly stipulating ἰσοπολιτεία between the Akarnanian and Aitolian Leagues.[1]

A cogent argument has evolved which places this treaty just after the expulsion of Pyrrhos' son Alexander from Epiros by the Makedonians.[2] The treaty itself sets the Acheloos River as the boundary between the two peoples except for some areas north of Stratos; it provides for rights of intermarriage and holding of land; it decrees citizenship for Aitolians in Akarnania and for Akarnanians in Aitolia; it also decrees mutual defensive assistance if one or the other is attacked; and finally, it describes what form this assistance would take, how soon it must be sent, who would pay for it and what it would cost.

This treaty of mutual assistance and isopolity was not destined to last long because of the different interpretations of its provisions which must have ensued. About a decade after it was struck (c. 252-50), Aitolia entered into an agreement with Alexander II of Epiros to divide Akarnania between themselves; the Epirote and Aitolian armies then

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marched into their respective portions of the territory and forcefully dissolved the koinon of the Akarnanians.[3]

The horror with which our sources report this action is directly attributable to their general anti-Aitolian bias.[4] Apart from this, it is not difficult to see how the partitioning of Akarnania grew out of legitimate disputes arising from the treaty of c. 263/2. Swoboda long ago realized the implications of this treaty. Strictly speaking, Akarnania had agreed to a union of the two Leagues--at least this interpretation could be derived from lines 11-13 of the document: εἶμεν δὲ καὶ ἐπιγαμίαν ποτ' ἀλλάλους καὶ γ / ᾶς ἔγκτησιν τῶι τε Αἰτωλῶι ἐν Ἀκαρνανίαι καὶ τῶι Ἀκαρνᾶνι ἐν Αἰτωλίαι καὶ πολίταν εἶμε / ν τὸν Αἰτωλὸν ἐν Ἀκαρνανίαι καὶ τὸν Ἀκαρνᾶνα ἐν (A)ἰτωλίαι ἴσον καὶ ὅμοιον.[5] That the Akarnanians did not intend these words to be interpreted this way is clear from what we know about the grant of citizenship in Akarnania; and this strikes to the heart of the makeup of the Akarnanian federal state. In a strict sense, federal citizenship found its definition in the individual constituent communities of the League. When the federal League was formed, the citizenship of the individual poleis was left intact; the sovereign authority to grant citizenship also remained with the individual poleis. The central League however, possessed the authority to direct a constituent polis to grant citizenship to one so honored by the koinon.[6] Such an action probably grew directly out of the honorific grants of citizenship awarded to proxenoi and in these early cases, the proxenoi were apparently allowed to pick in which polis they would like to hold citizenship.[7] There would be no doubt in these cases that the

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city would comply with the wishes of the koinon; in many cases, an individual polis probably introduced a particular candidate for this honor, i.e., it was anticipated that the proxenos would take up citizenship in the community which sponsored him. This system however, was ill-suited for the agreement made with Aitolia. Presumably a pro-Aitolian element or faction had pushed this treaty through the koinon. The list of the League's officers recorded on the stele shows a considerable element from Oiniadai and Stratos, two areas which should have felt particularly threatened by such a treaty. It may not be too unreasonable to conclude that a pro-Aitolian party had gained control of at least Oiniadai and perhaps other cities of the League whose lands bordered on Aitolia. These men, probably with the full support of Alexander, negotiated the treaty and placed it before the koinon for approval. Those members of the koinon who did not want isopolity with Aitolia could still approve the treaty because they knew that the final decision rested with the individual poleis. And here is where the trouble must have begun. Aitolians probably tried to move into Akarnanian-held areas (perhaps at the invitation of pro-Aitolian factions) and when they were not granted local citizenship or the local right to own land, tensions developed. No doubt the Aitolians appealed to the treaty as they negotiated with Alexander to avenge the "wrongs" done to them. The end result was the forceful dissolution of the Akarnanian koinon and the military takeover of its territory.

How this partitioning affected the western coastal sites has never been satisfactorily established. We know from our literary sources that

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Limnaia, Medion, Thyrreion, Anaktorion and Leukas fell to Epiros. This of course would include all communities of the Plagia Peninsula as well as Palairos. Aitolia gained control of Stratos, Phoitiai, Metropolis and Oiniadai.[9] Since the border apparently ran between Medion and Phoitiai, Astakos was clearly Aitolian. It is more difficult to decide to which side Alyzeia fell, but the geography of the valley supports the likelihood that it too was Aitolian. The most accessible route into the valley is through the pass leading from Archondochori, i.e., from the direction of Phoitiai. Access to the Epirote controlled north would have been blocked by Mt. Serekas and the Akarnanika Orē, and to Medion by Mt. Boumistos.[10]

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Notes to Chapter VI

[1] IG IX 1^2, 3A.

[2] See Klaffenbach (1931) and (1955). While Antigonos was engaged with the Chremonidaian War, Alexander II attacked Makedonia. He was temporarily successful but was then driven out of Makedonia and even Epiros. Alexander then fled to Akarnania where he marshalled his supporters and engineered a successful return to Epiros (Just. Epit. 26.2. 9-3.1). Klaffenbach dates his attempt on Makedonia to winter 264/3 and his expulsion from Epiros during 263. The treaty he thinks may have been made at the urging of Alexander while he was an exile in Akarnania, i.e., in 263 or 262. Klaffenbach believes that Alexander returned to Epiros with Aitolian and Akarnanian help in 262; cf. Just. Epit.: "Alexander ... non minore Epirotarum desiderio quam sociorum [i.e., the Akarnanians and Aitolians] auxilio in regnum restituitur." Along this same line, cf. also Hammond (1967 : 588-89).

[3] For the Aitolian military actions, cf. Paus. 10.16.6 and IG IX 1^2, 180; for the Epirote actions, cf. Just. Epit. 28.1.1 and Frontin. Str. 3.4.5 who mentions a strategem used by Alexander [probably Alexander II of Epiros; cf. Oberhummer (1887 : 145)] to take Leukas. For the date, see Klaffenbach (1955) and Cross (1932 : 133).

[4] Polyb. 2.45.1; 9.34.7; and Just. Epit. 28.1.1.

[5] See Swoboda (1913 : 300); cf. also Szanto (1892 : 67 ff. and 79 ff.) for the concept of isopoliteia. Apparently, Aitolia commonly used such treaties to bind members of her League to herself; cf. Schwahn (1932 : 1177-78).

[6] For a discussion of Akarnanian citizenship, see Szanto (1892 : 137-38). I repeat his conclusions here: "Ein akarnanischer Neubürger braucht aber nicht erst akarnanisches Bürgerrecht zu erlangen, sondern der Einzelstaat zu verleihen, damit er akarnanischer Samtbürger werde."

[7] Cf. IG IX 1^2, 393 (first half of third century); later examples date to the second century when the League was apparently empowered to to make proxenoi and euergetai of the koinon, not the individual cities: IG IX 1^2, 588; 208a, b, c; and 209a, b. For the common practice of granting citizenship with proxenia, see Schwahn (1932 : 1178).

[8] See lines 22-25; one of the seven generals is from Oiniadai as is the hipparchos and the secretary. Stratos, another community which should have felt threatened due to its proximity to the border, provides one general and the treasurer.

[9] For the division, see Polyb. 4.63.7 ff., 64.4 ff.; cf. also Oberhummer (1887 : 145-46).

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[10] The topographical setting and likely date for the fortress called Kastri (site no. 4) also support the likelihood that Alyzeia was controlled by Aitolia; see pp. 90-91.

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CHAPTER VII

The Reestablishment of the Akarnanian League

The status quo was apparently maintained by both the Aitolians and Epirotes until the death of Alexander II, c. 239. In the aftermath of his death, the Aitolians attacked the Epirote part of Akarnania and seem to have taken Thyrreion.[1] The decade of the 230's was a troubled one for Epiros, witnessing the end of the Molossian monarchy and the establishment of a democracy.[2] With Makedonia ruled by a weak king (Demetrios II) and confusion in Epiros, Aitolia managed to annex Amphilochia and Ambrakia, and Akarnania's Epirot cities managed to regain their freedom largely by default.[3] The Aitolians decided to continue the work left undone in 239 and started in the autumn of 231 to besiege Medion with all their forces. Thanks to Demetrios of Makedonia who had hired the services of King Agron, 100 Illyrian lemboi arrived just in time to provide sufficient aid to defeat the Aitolians and force a withdrawal.[4] Since the Medionians had fought without help from other Akarnanian cities, it is obvious that the Akarnanian League had not yet been reestablished by the autumn of 231. However, in 230, Polybios tells us that the Akarnanians were already in an alliance with Agron's widow Teuta (the king had died shortly after returning from his successes at Medion); the reestablishment of the League has therefore been dated to the winter of 231 or the spring of 230.[5]

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The constitution of this reestablished League was different in both spirit and form from that of its pre-partition days.[6] The basic concern for the sovereignty of the constituent poleis was still present,[7] but there now seems to have been a defined concept of federal citizenship which had been lacking in the previous constitution. For example, a sufficient sense of League sovereignty existed to allow for the granting of προξενία τοῦ κοινοῦ τῶν Ἀκαρνάνων.[8] It is true that the evidence for this statement comes from proxeny decrees dating to the mid-second century, nevertheless, it is probable that this new awareness of federal sovereignty developed directly from the citizenship controversies of the 250's which I believe led to the partitioning of Akarnania. All things considered, the new federal League had greater authority than the previous League had had.

Variations in the bureaucracy of the League are also apparent. The college of generals was replaced by a single eponymous στρατηγός who was assisted by a ἵππαρχος (as previously) and a ναύαρχος; these officers, called οἱ ἄρχοντες, had their own secretary.[9] The assembly was called by three names--τὸ κοινόν, ἡ ἐκκλησία and οἱ χίλιοι—and was presumably unchanged in form from the previous one.[10] There was also a council (ἡ βουλή) which had its own secretary, and a chief officer called the προμνάμων who at times served with at least two (and maybe more) συμπρομνάμονες.[11] As in the previous system, there was a ταμίας and thus a League treasury.[12] How these officials were elected and whether or not there was some regularized process for selecting them from the various member poleis is not known.

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The new koinon had a wide range of powers; it made decrees concerning foreign affairs, sent embassies, granted proxenia and citizenship to foreigners, concluded treaties, declared war, raised the League army and oversaw its provisioning, and presumably oversaw or directed the election of its own officers--we know it had powers to impeach them.[13] From the evidence of a recently discovered inscription outlining the provisions for the transfer of the care of the Aktian sanctuary from Anaktorion to the League (IG IX 1^2, 583), we know that the federal government treated member poleis as politically autonomous entities. Therefore, within the federal structure, the koinon had power (which at least was not evident before) to negotiate with the member poleis concerning their own domestic policy.[14] The assembly normally met in the chief city of the federation, which from 230 - 167 was Leukas, but there are instances of it meeting elsewhere; a session could apparently be called by any city of the League.[15]

C. Habicht has correctly observed that the main thrust of the new federation's foreign policy was the liberation of the Akarnanian communities still under Aitolian control.[16] This included the cities of Oiniadai, Stratos, Metropolis and Phoitiai; I would add to this list, Astakos, Koronta and perhaps Alyzeia.

In other respects, these years may have been economically prosperous for the western coastal cities. N.G.L. Hammond has observed that as a result of the First Punic War, Italy was probably in need of imports.[17] A portion of this trade no doubt passed into and out of the harbors of these cities if my view is correct that the Leukas Canal was navigable

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during these years.[18] This much, at least for Anaktorion's ports at Aktion, can be inferred from the decree concerning the sanctuary of Aktian Apollo referred to above. The concern shown by the League to assure Anaktorion that her taxation rights at Aktion would remain unchanged except during the festival implies that Anaktorion derived a significant income from these taxes relative to her total revenues. The document also reveals that the Aktian festival had a strong mercantile and fiscal component to it. Taxes to be shared by Anaktorion and the League during the festival were: 1) the πεντηκοστή or 2% harbor tax, 2) a sales tax on slaves and 3) "other taxes"--probably a) a general sales tax, the ἐπωνία, and b) a market tax, the ἀγοραστικόν.[19]

Where there is trade within an unstable political environment, there will be brigandage and piracy. After the fall of the Epirote monarchy, the Illyrians seem to have increased the range and nature of their piratical raids.[20] Aware of the danger these raids posed to all coastal communities and mindful of the recent help these people had provided at Medion against the Aitolians, the new League lost no time in allying themselves with Agron's widow Teuta.[21] Her quick defeat by Rome, however, left the Akarnanians to look for a new protector. The vacancy was soon filled by Antigonos Doson of Makedonia whose Hellenic League they joined in 224 or 223.[22]

After Doson's death in the summer of 221, his successor Philip V continued to provide strong leadership for the alliance. The Aitolians tested the young king's strength in the autumn of 221 (or the spring of 220) by raiding the coasts of Akarnania and Epiros "using Kephallenian

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ships."[23] They also made a night raid on Thyrreion and attempted, unsuccessfully, to take the place.[24] Due to these and other acts, Philip called the allies to a meeting at Korinth in the late summer or autumn of 220 to discuss what actions should be taken; they opted for war and made preparations for the levy of an allied army.[25]

The events of the following three years proved to be particularly fortunate for the Akarnanians. In 219 Philip campaigned along the Aitolo-Akarnanian border, recovered Phoitiai, burned Metropolis, crossed the Acheloos to take Ithoria and Paianion, and recovered Oiniadai. This last city he intended to use as a naval base, so he fortified the promontory on which the shipsheds were located. With Phoitiai captured and the western bank of the Acheloos under Akarnanian control (except for Stratos), it is peculiar that we hear nothing about Astakos, Koronta or Alyzeia. It is certain, however, from the decree concerning Aktion (IG IX 1^2, 583, lines 6, 22, 64-65) that Koronta and Alyzeia were members of the League by c. 216. If Philip had not taken them (and thus Polybios' silence concerning them), the Akarnanians themselves probably recovered these two places sometime between 219 and the Peace of Naupaktos in 217.[26] The topographical setting of Astakos, hemmed in by Koronta, Oiniadai and Alyzeia, makes it extremely likely that this polis was also recovered by 217.

In 218 Philip campaigned at Kephallenia and then was persuaded by the Akarnanians to make an attack on Aitolia.[27] He broke off his siege of Palē and set out for Leukas which he reached in two days. He passed through the canal and continued to Limnaia where Akarnanian forces

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joined him. He then made a true "Blitzkrieg" attack on Thermon, sacked the sanctuary and returned without serious opposition to his ships. He returned to Leukas and from there continued on to Korinth.[28]

At the end of summer in 217, peace was agreed upon between Philip's Hellenic League and the Aitolians at Naupaktos. Only Stratos continued to remain in Aitolia's hands. The pious joy of the Akarnanians over their recent gains is expressed in their desire to restore as a League sanctuary the shrine of Aktian Apollo which had suffered considerably during the recent years of Aitolian pirate raids.[29] Since the shrine had been under the private care of Anaktorion, the koinon sent an embassy to this polis to work out an arrangement whereby the shrine would henceforth be held in common by the League and the people of Anaktorion.

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Notes to Chapter VII

[1] For the events of 239, see Klaffenbach (1957 : XX). Alexander II is dead by 239 at the latest because in this year his widow Olympias sought Makedonian help against the Aitolians who were trying to take over the Epirote portion of Akarnania (Just. Epit. 28.1.1-3, 2.14). We are told that the Akarnanians appealed to the Roman Senate for help (Just. Epit. 28.1.5; Strabo 10.2.25). This story's validity, however, has been called into question; cf. especially Holleaux (1921 : 5-7) and the literature cited by Klaffenbach (1957 : XX, lines 86-90). Klaffenbach (1954 : 23 with n. 2) argues that IG IX 1^2, 3B clearly shows that Thyrreion is an Aitolian city (surveyors from this city arbitrate a land dispute between two other Aitolian cities--Oiniadai and Metropolis); he dates the inscription by its eponymous strategos to between 235 and 230 [see Klaffenbach (1931 : 233-34)]. The city, however, may have been lost to the Aitolians by 231 when they attacked Medion; cf. Klaffenbach (1931 : 234) and (1957 : XX, line 78).

[2] The exact reconstruction of events which led to the Epirot monarchy's fall is impossible to attain due to the poor nature of our sources. See Oberhummer (1887 : 149-51) who concludes that the democracy was established in 236. See also Hammond (1967 : 591-93) who concludes it was established in 232, and Oost (1954 : 6) who believes "it probably occurred about 233 B.C."

[3] See Oberhummer (1887 : 151-52).

[4] Polyb. 2.2.5-4.4.

[5] Polyb. 2.6.9; cf. Klaffenbach (1957 : XXI) for the literature on this matter. Note that the new League is composed only of the cities which were once held by Epiros, i.e., the cities of the northwest.

[6] The evidence for the following remarks comes solely from the inscriptional evidence provided by a few League documents: IG IX 1^2, 208a-c; 209a-b; 582; 583; 588.

[7] The League took special care to respect the rights and sensitivities of the member polis Anaktorion when it negotiated with this city to make the sanctuary of Aktian Apollo a common sanctuary of the League; see IG IX 1^2, 583 and below.

[8] The variant προξενοι τῶν Ἀκαρνάνων is also found; cf. IG IX 1^2, 208a, b and c; 209a and b; and 588.

[9] See IG IX 1^2, 583, lines 1-2, 4.

[10] Swoboda (1913 : 304).

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[11] Swoboda (1913 : 306).

[12] See IG IX 1^2, 583, lines 59-60; and also 582, lines 34 and 39.

[13] Cf. Busolt-Swoboda (1926 : 1468) and Swoboda (1913 : 305).

[14] Historically, the League had developed out of a need to combine for protection, that is, the koinon developed to coordinate the defense and direct the foreign policy which affected the survival of the entire ethnos. Except for this, the constituent poleis had retained full sovereignty. It is the effect of this tradition which can be seen in the careful dealings of the koinon with the constituent polis Anaktorion, c. 216. Kirsten, therefore, cannot be correct in implying that Anaktorion's independent position (from the League) stems from the fact that the city was once a colonial foundation of Korinth; cf. Kirsten (1958 : 563). Any influence Korinth had over Anaktorion lapsed in 424 when the land was resettled by Akarnanians. There is no indication whatsoever in any of our sources that Anaktorion was treated differently from other members of the League; cf. IG IX 1^2, 3A, lines 23-24. If any city should have displayed residual effects from a Korinthian heritage, it should have been Leukas, but this also seems not to have been the case (see below, text).

[15] See Swoboda (1913 : 305 n. 3). From the earliest times, the chief city of the ethnos (and later, of the League) seems to have had no visible constitutional designation as such. It may have been merely the largest, most populous and therefore most influential city of the ethnos. The chief city also seems to have served as the seat of the treasury, for the federal issues stem from these cities. Stratos served in this capacity until the partitioning of the League in c. 252/50. After that, Leukas assumed the position of the most influential city, but some rivalry seems to have developed with Thyrreion due to politics and the control of the koinon. This rivalry may have been partly responsible for Leukas' separation from the League in 167; thereafter Thyrreion assumed the position as chief city without opposition.

[16] Habicht (1957 : 95).

[17] Hammond (1967 : 590).

[18] See p. 246.

[19] See Habicht (1957 : 106-109); for the harbor tax, see Thiel (1926 : 62-67). Note also the provisions concerning those who administered these taxes: lines 34-36.

[20] On Illyrian piracy in general, see Dell (1967).

[21] For events of 230/29 and the dispatch of seven ships by the Akarnanian League to fight at Kerkyra, see Will (1966 : I,322-24),

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Klaffenbach (1957 : XXI) and Oberhummer (1887 : 158).

[22] Polyb. 4.9.4; for the date, see Oost (1954 : 19) and Klaffenbach (1957 : XXI). I cannot agree with Oost's general theory that "the rich were getting richer and the poor poorer" in Akarnania (p. 5). He argues that the democratic revolution in Epiros was the result of class strife, but that by 230 the "upper" classes had again won control, and that they joined Antigonos Doson's Hellenic League partly because they wanted to combat social revolution (p. 7). Akarnania, who also joined the League, was ruled by a hoplite franchise assembly (i.e., an oligarchy) who also "would be interested in repressing social revolution." (p. 8) There is no evidence at all for this view; Akarnania sought the alliance with Antigonos because he could provide aid against Aitolia, as was amply shown by Philip's actions some five years later. Although Oost recognizes this fact, he ignores its general significance; cf. Oost (1954 : 18-19).

[23] Polyb. 5.3.7; for the date, see Klaffenbach (1957 : XXI).

[24] Polyb. 4.6.2, 25.3; 5.3.7.

[25] Polyb. 4.22.2, 25-26.2.

[26] See Habicht (1957 : 97 with n. 2). I would expand his argument to embrace Astakos as well as Koronta. Habicht also suggests that Koronta (and again we could add Astakos and Alyzeia) may have been ceded to the Akarnanians by the peace agreement of 217.

[27] Polyb. 5.5.2. The major argument that persuaded him not to try an attack on Messenia was the difficulty he would have had in returning to the north with the northwest etesians blowing. On weather conditions in general in this area, see Appendix A.

[28] Polyb. 5.13-16, 17.8, 18.8.

[29] See the excellent discussion of this decree (IG IX 1^2, 583) by Habicht (1957). Some years, the fear of attack was so acute that the festival was held within the city walls of Anaktorion; cf. lines 49-50 of the decree and Habicht (1957 : 97).

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CHAPTER VIII

Relations with Rome

The Peace of Naupaktos stopped hostilities on a grand scale, but it soon became apparent that neither the Akarnanians nor the Aitolians were ready to bury the hatchet. Some fighting occurred near Stratos in 216 and the Aitolians somehow managed to recapture Thyrreion before 212.[1] Such fighting, especially the capture of Thyrreion, at any other time might have resulted in Makedonian intervention, but Philip had other developments to consider; during the summer of 216, he sailed into the Ionian Sea to learn more about events in Italy. In the following year, he entered into an agreement with Hannibal, thereby hoping to remove the so-called Roman "protectorate" from Illyria.[2] Akarnania supported her ally Makedonia and agreed to the treaty of alliance; the repercussions of her action could not have been foreseen.[3]

In reaction to Philip's alliance with Hannibal, Aitolia eventually allied with Rome. The terms were unofficially agreed upon at Thyrreion in the spring of 212, but the treaty was not officially ratified by the Roman Senate until 210.[4] Under the terms of the agreement, all cities and lands taken by either party were to become Aitolian, and all moveable property (i.e., booty) was to belong to the Romans if they took it, or shared by both if taken in a joint action. We are told that a major incentive for Aitolia's entry into this agreement was the prospect of

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gaining all of Akarnania.[5] Acting immediately on these agreements, the praetor M. Valerius Laevinus captured first Nasos, then Oiniadai, and gave them both over to the Aitolians.[6] Either at the end of this year or the beginning of the next, the Aitolians prepared an attack on Akarnania in full force, but due to the determined preparations made by the Akarnanians and the report that Philip was hastening to their aid, the attack was called off.[7] Sometime between 210 and 207, the Akarnanians managed to recover Thyrreion, although they are still represented as being "in magno metu" with others of Philip's allies in early 208. All Aitolia's neighbors had suffered great devastation and they were terrified by the perceived vigor of the Aitolo-Roman alliance.[8]

The devastation suffered by the inhabitants of southeastern Akarnania seems to have been severe. From two decrees dated to 207 which list the constituent cities of both the Aitolian and Akarnanian Leagues, we can gauge the degree of dislocation in this area.[9] In neither of the lists do we find Astakos, Oiniadai or Metropolis. A man from Koronta served as general for the Akarnanians during this year, yet his city is not listed among those voting on the decree. Presumably the Aitolians held the town. We can imagine the situation as follows. Scattered forces of Aitolians held strategic positions at places like Oiniadai, Koronta and Metropolis and thereby maintained physical control of the land.[10] Raids and counter raids prohibited the effective functioning of civic communities in this depopulated area whether it was under Aitolian or Akarnanian control, and therefore, cities from this area appear on neither list of 207.[11]

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The following year the Aitolians, independently of Rome, agreed to make peace with Philip and his allies. We know little of the treaty's provisions, but it probably recognized the status quo.[12] If this is so, Oiniadai and Nasos remained Aitolian and perhaps so did Koronta and the Astakos Valley. The following year, Philip came to an agreement with the Romans at Phoinike;[13] representatives of the Akarnanians were there partly because of Akarnania's proximity, but also because of their interest in securing Rome's neutrality. Ever since the provisions of the Aitolo-Roman treaty of alliance had become known, and especially after Laevinus' attack on Oiniadai, the Akarnanians feared Rome as a powerful ally of Aitolia.[14] As they had placed their entire trust in Philip's ability to protect them, they would be among the first to agree to a treaty of peace with the Romans signed by the king.[15]

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Notes to Chapter VIII

[1] A fragment of Polybios (Ath. 3.95.d = Polyb. 6.59 H) tells us of the battle near Stratos; cf. Oberhummer (1887 : 166 and n. 4). For the events at Thyrreion, see Klaffenbach (1957 : XXIII, lines 88-91).

[2] Polyb. 7.9.13. See Oost (1954 : 28-30) for Philip's concerns about this Roman "protectorate."

[3] For Akarnania's agreement to the treaty, see Oost (1954 : 30 with notes).

[4] Klaffenbach (1954 : 4); for a slightly different chronology, see F.W. Walbank, Philip V of Makedonia (Cambridge, 1940) 301-304. In general on this matter, see the bibliography cited by Will (1967 : II,76).

[5] A portion of the original treaty of alliance has been found at Thyrreion (IG IX 1^2, 241). The text of the actual treaty is not exactly the same as that recorded by Livy 26.24. For the full discussion of this problem, and in general, see Klaffenbach (1954); see also Will (1967 : II,75-76) for a more recent analysis of the problems and a discussion of the pertinent bibliography. For the geographical areas covered by this treaty, see Klaffenbach (1954 : 7 n. 1), who reviews all the literature. The view that the annexation of Akarnania was a strong factor in Aitolia's decision to ally with Rome is Livy's (26.24.6, 8).

[6] Livy 26.24.15, 25.10; Polyb. 9.39.2; Just. Epit. 29.4.7.

[7] Livy 26.25.9-16; cf. the fragments of Polybios 9.40.4, 5-6.

[8] For Thyrreion, see Klaffenbach (1957 : XXIV, lines 77-88); for events of 208, see Klaffenbach (1957 : XXIV) and Livy 28.5.3-9.

[9] The decrees show the Akarnanian League and the Aitolian League agreeing to participate in the Panhellenic worship of Artemis Leukophryenis at Magnesia on the Maiandros River. At the end of each decree occur the words κατὰ τὰ αὐτὰ δὲ ἐψηφίσαντο, and then a list of cities; cf. IG IX 1^2, 186 and 582. Astakos cannot be restored as the last city mentioned in IG IX 1^2, 186, line 14 because the cities seem to follow a geographical grouping. Such a grouping is not apparent however, in the other inscription.

[10] For such a force at both Metropolis and Oiniadai in 219, see Polyb. 4.64.3 and 4.65.5. The countryside was controlled (at least in 219) by forces placed in fortified πύργοι; cf. Polyb. 4.64.11. It seems unlikely that either Astakos or Agios Pandeleimona had received such garrisons (at least in 208) because it is probable that a portion of the Karthaginian fleet used Astakos Bay as a safe harbor in 208; cf. Livy 28.7.18.

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[11] Oiniadai did not remain depopulated for long. A list of Delphic theorodokoi dating to the end of the third century or the beginning of the second lists Oiniadai; cf. Klaffenbach (1957 : XXV, lines 70-80).

[12] Cf. Oost (1954 : 35-36) and Oberhummer (1887 : 171).

[13] Livy 29.12.8-12.

[14] Cf. Livy 28.5.5.

[15] I do not agree with Oost (1954 : 38) that the Akarnanians took a "much less 'realistic' view" of Roman power than the Epirotes (cf. Livy 28.5.3-9). Akarnania knew perfectly well the threat to their existence posed by an Aitolo-Roman alliance. Her immediate interest in this treaty was a direct result of her realistic appraisal of Roman power.

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CHAPTER IX

The Second Makedonian and Syrian Wars

Within five years after the Peace of Phoinike, Rome was again involved in Greek affairs. The occasion for the outbreak of the conflict between Rome and Philip was accidental, but the inevitability of the conflict was not.[1] S. Oost has reasonably argued that the Second Makedonian War showed Rome had decided to pursue "a policy of active voluntary imperialism in Balkan lands."[2]

In the autumn of 210, two uninitiated Akarnanian youths were caught profaning the Eleusinian Mysteries by their presence at the rites; in a wave of religious hysteria, the two youths were hastily executed by the Athenians. The Akarnanians appealed to Philip for help in making a reprisal against Athens and he acceded to their request partly to elicit continued Akarnanian support and partly to rebuke Athens for some recent anti-Makedonian acts.[3] Events led quickly to a general war. Philip and the Akarnanians attacked Athens, Athens declared war on Philip and Rome intervened, apparently with the full intention of fighting a war with Philip.[4] They demanded that Philip make war on no Greek state. The embassy which brought this message to Greece in the spring of 200 did not stop in Akarnania; it was obvious who her friends were. Even so, Akarnania did not play a major role in the war that followed.

Events of 199 brought Aitolia into the war against Philip, but we

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do not hear of any attacks on Akarnania in this or the following year. A pro-Roman party had formed in Akarnania and there is some indication that the Roman command was optimistic about its power.[5] In the spring of 197, L. Quinctius Flamininus was sent by his brother Titus to seduce the Akarnanians away from Philip; they were the last to remain true to the alliance. The chief men of Akarnania were summoned to Kerkyra for a meeting with Flamininus, but they remained true to Philip, Livy says for two reasons: "una fides insita genti, altera metus odiumque Aetolorum."[6] The pro-Roman party then tried to annul the alliance with Philip by calling a quick meeting of the koinon at Leukas in which they pushed through a decree to that effect. This attempt failed because later, when all the representatives arrived, the decree was annulled, the strategos was impeached and the two proposers of the motion were indicted for treason.[7]

This little episode allows us to make a few important observations concerning Akarnania's political makeup. Clearly the pro-Roman party was strongest in those areas around Leukas; this explains the effectiveness of calling a rump session of the League assembly. This fact is not surprising since Leukas and the northwestern communities were furthest geographically from Aitolia and at the same time more vulnerable to attack from the Roman fleets. The most prosperous area of Akarnania during these years (if we can judge from the remains) was northwest Akarnania and this was due in part to the sea lane running up through the canal area, Leukas' large, sheltered harbor, and the north coast's ease of access to the Ionian Sea through the Ambrakian Gulf. These areas had

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also been less affected by the Aitolian devastations of the last decade of the third century described above.[8] These prosperous areas were more accessible to the Romans, and the presumably wealthy "principes" of these areas were the type of citizens with whom the Roman generals liked to deal.[9] Yet, neither the oligarchy seen by Oost, nor the wide gap he interprets (in these regions) between "the haves" and "the have nots," was so pronounced or influential that it resulted in an open change of policy.[10] That these matters could be worked out within the framework of the established constitutional system shows that Akarnania was not an area of seething social unrest; the League was still committed to a policy of recovering the lands and poleis of the ethnos, and thereafter, of preserving the status quo--no more.[11] It is a policy the Akarnanians had pursued for most of their history, and one which they continued to pursue so long as they had control of their own foreign policy. This unwavering policy was at the root of their "insita fides" and was what made them so appealing to a moralist like Livy and to a political pedagogue like Polybios. Akarnanian policy was very predictable.

The result of actions at Leukas left Flamininus no choice; he attacked the city and was finally able to take it, thanks to the treachery of some Italian exiles who admitted the enemy into the city. The Akarnanians had no alternative when it was learned that Philip had been defeated at Kynoskephalai; a few days later the ethnos surrendered to Rome.[12]

In the settlement which followed Philip's defeat at Kynoskephalai, the Akarnanians were treated very leniently.[13] The League was not dis-

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banded, Leukas was returned to the Akarnanians in spite of an Aitolian claim for the city and the ethnos was given the status of societas.[14] Oost maintains this was because of her geographical placement--the fact that she and Epiros were Rome's nearest, most convenient entrance into Greece.[15] This is certainly part of the story, but it really is a better reason for the favored treatment of Epiros than for that of Akarnania.[16] There is another, better reason why Akarnania received special leniency after this war, and again in 189, and it has to do with the enmity which existed between the Akarnanians and the Aitolians.

As early as 212, the Romans must have appreciated the hate which existed between these two ethnē.[17] And if they had forgotten, they were reminded of it on at least three occasions between 197 and 196.[18] It appears quite likely that the Romans were lenient to the Akarnanians because they needed them to exist as a thorn in Aitolia's side. For this reason, Flamininus decided to deny Aitolia's claim on Leukas; he was not so much doing a favor for the Akarnanians as he was not doing a favor for the Aitolians. It was a policy statement designed to show Rome's displeasure with her "ally" Aitolia; it is a policy we will see employed again in 189.[19]

Displeased with their general treatment at the hands of the Romans, the Aitolians were quick to embroil Greece in another war after the Roman pull out of 194. Antiochos III of Syria was induced by their arguments and promises to cross to Greece in the autumn of 192, and Rome, soon thereafter, declared war on him and the Aitolians.[20] Agents were sent by Antiochos to Akarnania to gain their support and a certain

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Mnasilochos (probably from Medion) emerged as the leader who directed policy for Antiochos in Akarnania.[21] He won over the strategos of the League, Klytos, and attempted to change Akarnanian policy through the assembly at Leukas. One can imagine the complete confusion which must have prevailed at this assembly. As explained previously, the traditional policy of the League had been to preserve and protect Akarnanian autonomy. In the past, this had often been achieved by the adherence of the ethnos to a protector, and usually the protector had been at odds with the enemy that threatened Akarnania's autonomy most--first the Korinthian colonies, and then Aitolia. But, considering the present state of affairs, whom could they trust? No doubt Antiochos gave out assurances that Akarnania would not be ceded to Aitolia, but there were those still alive who could recall the empty assurances given by those who had counseled them into an Aitolian alliance in the 260's. The fears voiced by the Leukadians won the day and, in effect, show us that the sociopolitical makeup of the League assembly had not changed significantly since 197. The pro-Roman elements were still strongest at Leukas, and since their reason for adhering to the alliance is flatly stated as fear of the Roman fleet, they were also likely to be strong at other coastal cities, particularly in the northwest (see below, concerning Thyrreion).

Since Leukas, and perhaps the coastal cities as a faction, controlled the League's decision, Mnasilochos resolved to force an alliance with Antiochos on the League. He arranged for garrisons to be sent to Thyrreion and Medion with the intention of handing them over to Antiochos as hostages. At the beginning of spring in 191, Antiochos sent an em-

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bassy to Medion to ask the city to accept his friendship. Klytos, who was in Medion probably as commander of the garrison, asked the king for time to consult the koinon and this was granted. Soon after envoys had set out for Leukas, Antiochos appeared at the city and was admitted by Klytos and Mnasilochos amid great confusion. The king soothed the populace with a moderate speech and some communities voluntarily declared for Antiochos, hoping for clemency. Most communities remained true to the earlier dictates of the koinon; Thyrreion, forwarned by the treachery at Medion, closed its gates to the king and pronounced it would not form a new alliance without the consent of the Roman commanders. At this critical moment, the Akarnanians were reassured by a Roman envoy sent to Leukas that a full consular army had just crossed to Thessaly from Italy. As events proved, they were wise in their decision to await the Roman response to Antiochos' actions because the king was hastily driven from Greece.[22]

A series of truces temporarily halted the conflict with the Aitolians until the spring of 189. In the face of an invasion by the Romans, Akarnanians, Makedonians and Epirotes, the Aitolians sued for peace.[23] In the settlement which followed, Aitolia lost control over all places which had gone over to the Romans since the outbreak of the war, Ambrakia was to be free and Oiniadai with its territory was to be given up to the Akarnanians.[24] The Romans had no need to conciliate the Akarnanians; their motive for this last action was the one we have seen before. Even Oost admits: "their acquisition of that city may have been due as much to a Roman desire to demonstrate to the Aitolians that what Rome had

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given she could take away, as to any wish to please the Acarnanians."[25]

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Notes to Chapter IX

[1] See Holleaux CAH VIII, 239, and also Oost (1954 : 41 and nn. 4 and 8). For the events wich led to the outbreak of the war, see Klaffenbach (1957 : XXV), Oost (1954 : 42 and n. 17) and Will (1967 : II,113 ff.).

[2] Oost (1954 : 40).

[3] Livy 31.14.7-10; cf. also Oost (1954 : 42). Oost's arguments are sound. The Akarnanians had suffered in the last war, a pro-Roman party had perhaps already started to gain support (cf. Livy 33.16.5), and Philip had earned a bad reputation for cruel and savage conduct in the Aegean. His action was designed to show the Akarnanians that his friendship was still of value and the Athenians that his displeasure was to be avoided.

[4] For a general reconstruction of these events, see F.W. Walbank, Philip V of Macedonia (Cambridge, 1940) 129-31. The Roman war policy was that of the Senate; the comitia were initially of a different mind and had to be harangued into declaring for war (cf. Livy 31.6.1, 3; 31.7-8.1).

[5] In the fall of 198, Flamininus rejected the possibility of wintering the fleet in Akarnanian harbors, not because of the towns' hostility, but because there was no port which could accomodate both the supply fleet and the army (Livy 32.18.3). Cf. also Oost's explanation (1954 : 47-48) of an apparent mix-up of orders sent to the supply fleet by Flamininus who may have initially ordered them to sail to Leukas (i.e., having previously expected to win over the city).

[6] Livy 33.16.2.

[7] Livy 33.16; Oost (1954 : 51) believes that the ability of the two proposers of the decree to talk themselves out of being banished shows that the pro-Roman party, "or at least those who feared Roman retribution," was a sizeable minority.

[8] Cf. p. 342.

[9] Oost (1954 : 57).

[10] For Oost's general views concerning economic condition of Akarnania and its effect on Akarnanian politics, see Oost (1954 : 5, 8 and 57).

[11] It should not be forgotten that the Romans and Aitolians were still allies. It would have been acceptable for Akarnania to ally even indirectly with Aitolia, because this would have entailed a tacit accep-

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tance of the status quo.

[12] Livy 33.17. The surrender probably occurred in June; cf. F.W. Walbank, Philip V of Macedonia (Cambridge, 1940) 323. Since the League treasury was presumably at Leukas, this city's capture effectively brought about the defeat of the League. The individual cities may have debated whether or not to continue their resistence, but the news of Philip's defeat quickly ended all such deliberations. The form of the surrender was a deditio according to Oost (1954 : 51).

[13] For the history and details of this agreement, see Oost (1954 : 52-55).

[14] The view adopted in the text is that of Oost (1954 : 55-56); for the view that they became foederati of Rome, see F.W. Walbank, Philip V of Macedonia (Cambridge, 1940) 182. Although Leukas was returned to the League, it was used by the Romans as a naval base; cf. Oberhummer (1887 : 17, with n. 3) and Oost (1954 : 56).

[15] Oost (1954 : 55).

[16] Oost (1954 : 1-2) makes a good case for the strategic position occupied by Epiros, but he is less convincing as concerns Akarnania. He makes much of the troubles an "actively hostile" Akarnania could cause for Roman movements in the Ambrakian Gulf, but the events of the Second Makedonian War provide us with no concrete example that this was in fact the case. There was no strategically necessary land route to central Greece leading from Akarnania, and if Flamininus could contemplate wintering his fleet along the Akarnanian coast when Akarnania was actively at war with Rome, the western communities must not have been known for their terrifying piratical forays; cf. Livy 32.18.3, and also p. 347 and n. 5.

[17] Cf. the provisions of the Aitolo-Roman treaty of 212 (IG IX 1^2, 241; Livy 26.24.6, 8; and p. 341 f.).

[18] These occasions were: 1) the concerns expressed by the Akarnanian principes at Kerkyra (Livy 33.16.2), 2) fighting between the Akarnanians and Aitolians at Medion in 196 [cf. Oberhummer (1887 : 177-78)], and 3) the Aitolian request for Leukas (Polyb. 18.47.8-9; Livy 33.34.7).

[19] For Rome's well known displeasure with Aitolia after Kynoskephalai, see Polyb. 18.34.1-3; the policy employed in Akarnania was also used in Thessaly by the Romans against the Aitolians (cf. Polyb. 18.38). For the disgruntled nature of the Aitolians after the peace settlement, see Polyb. 18.45.1-7; 48.6-10.

[20] For a full discussion of this war, see Oost (1954 : 58-67).

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[21] For two different views concerning Antiochos' motivation for attempting to win over Akarnania, see Oberhummer (1887 : 178) who argues that Antiochos was influenced by an Akarnanian advisor named Alexander, and Oost (1954 : 62-63) who sees less personal and more strategic motives at play.

[22] For the Seleukid symbols that appear on Akarnanian coins of this period, see Oost (1954 : 62) who believes that it "represents propaganda of the pro-Seleucid magistrates, more than allegiance of the Acarnanians to the Great King." This is essentially Oberhummer's view (1887 : 180 and n. 3).

[23] Two minor incidents occurred in 189 before hostilities ceased. An Aitolian force plundered Akarnanian territory (Livy 38.4.10), and two Aitolian envoys were captured in an ambush on their way to seek peace terms from the Romans; they were then incarcerated at Thyrreion. In the end, the consul M. Fulvius Nobilior had to request their release (Livy 38.9.2, 5; Polyb. 21.29.4).

[24] See Oost (1954 : 63-67) for events of these years. For the treaty, see Polyb. 21.32 and Livy 28.11. According to Dion. Hal. Ant. Rom. 1.51.2, the Echinades Islands were to be "enjoyed" by both the Akarnanians and Aitolians. Oberhummer (1887 : 186 n. 1) interprets this as meaning the division of the islands between the two ethnē. Oost (1954 : 66 and n. 172), questioning the exact meaning of the verb "to enjoy" (καρποῦσθαι), believes the passage " should probably be rejected." The verb could refer to fees charged by enterprising natives of the Acheloos delta for the use of the Echinades as an overnight anchorage area. The verb would then be translated "to exploit," or "to reap profits from;" cf. LSJ, s.v. καρπίζω (A).

[25] Oost (1954 : 66). Note that Stratos remained in Aitolian hands and continued to do so. Cf. for 169, Livy 43.21.6: "Stratos validissima tum urbs Aetoliae." Cf. also Oberhummer (1887 : 187 n. 1).

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CHAPTER X

The War with Perseus and its Aftermath

After the settlement of 189, Akarnania apparently enjoyed a period of peace. Almost every year embassies and commissions were sent from Rome to Greece, but on no occasion do we hear of problems in Akarnania. Presumably she was trying to rebuild her agricultural economy which would have been seriously injured by years of Aitolian plundering raids; she also apparently was engaged in resettling areas of her territory which had been previously abandoned. Proxeny decrees of the League dating to the mid-second century show that the communities of Astakos, Koronta, Metropolis and Oiniadai were again inhabited.[1]

Since Akarnania was apparently on the mend, she was not about to support anyone wishing to alter the status quo. This was probably the message carried by the Akarnanian ambassadors who hastened to meet with Q. Marcius Philippus and A. Atilius since they had not stopped in Akarnania during the autumn of 172. The possibility of war was so acute and the presence of the Roman embassy must have heightened people's apprehensiveness. The Akarnanians received a curt reply to go home and tell their countrymen to try to merit Roman generosity in the future; in the past they had been undeserving of it.[2]

In the war which followed, Akarnania played only a secondary role, a fact largely due to her internal stability. This healthy condition was tacitly recognized by a Roman embassy in 170. After Molossia had

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gone over to Perseus, the Romans had sent out this embassy to soothe the feelings of outrage in Greece against the unethical conduct displayed by some of Rome's officials.[3] The radical pro-Roman faction in Akarnania (led by Aischron, Glaukos and Chremas) seized upon this opportunity to gain control of Akarnanian politics by requesting that Roman garrisons be established in Akarnania. A League assembly was called at Thyrreion and the matter was discussed in the presence of the Roman ambassadors. A certain Diogenes spoke against the proposed introduction of garrisons, arguing that Akarnania had done nothing to deserve garrisoning and that this action would only serve to further the plans Chremas, Aischron and Glaukos had for establishing a "private dynasty." When it became obvious that this was the general opinion of the assembly, the Romans decided to leave Akarnania alone apparently on the principle that one should not tamper with a system that worked.

Just as there was a pro-Roman faction, there was also a pro-Makedonian faction, but we hear little about them in our sources because they were too small to alter the conservative status quo orientation of Akarnanian politics. Nevertheless, their existence is shown by Rome's concern for Akarnania's loyalty and also by Perseus' attempt to take Stratos the following winter (170/69). The pro-Makedonian faction there wanted to hand the city over to the king and had planned to bring this off in coordination with the surprise arrival of Perseus at their gates. The plan failed, although just barely, through the timely arrival of a Roman force. Much has been made of the motivation for this attempt on Stratos. Oost believes that "possibly all Aetolia, Acarnania and Epirus

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might have joined his cause," had this attempt succeeded.[4] At least as concerns Akarnania, this is certainly an overstatement. Akarnania would have decided such a matter in the League assembly and the same rationale which had prevailed in 197 most likely would have prevailed in 167; too many of the League's influential cities were afraid of the Roman fleet to switch their allegiance to Makedonia.

After the final defeat of Perseus at Pydna in 168, the radical pro-Roman party in Akarnania maneuvered to gain control of the government by calumniating those men who were not of their party. Chremas appeared before Aemilius Paullus and the commission sent from Rome with a list of names of those whom he considered dangerous to the Roman cause; accordingly, the commission sent to the strategos of the Akarnanian League a list of men who were to go to Rome to defend themselves against the charges.[5] There had been no serious anti-Roman threat from Akarnania, nevertheless, the commissioners seemed more than willing to gratify the wishes of the pro-Roman Chremas and support his party.

We are not told how many names were submitted to the strategos, but as events later showed, the pro-Roman party of Chremas seems to have convinced the Romans that the list was not long enough. Before L. Anicius departed from Greece in 167 (and just after the plundering of parts of Epiros), the Akarnanians and "other Epirotes" (i.e., those who had not been plundered) were summoned to a meeting. At this meeting, Anicius either reiterated the list already sent to the two koinē, or as Oost thinks, issued a supplementary list of names.[6]

Since Akarnania was loyal to Rome throughout the war, its treatment

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in the peace settlement seems unfair. The city of Leukas (with the island) was removed from the Akarnanian koinon and probably made a "free" city like Kerkyra, Zakynthos and Kephallenia.[7] No reason for this action is given by our sources. Oost hypothesizes that Rome "in all probability ... wished to weaken Acarnania," and that she wanted to detach Leukas "from dependence on any other power and make it 'independent,' i.e., subject only to Roman hegemony." He also argues that the action was a statement of policy that "what Rome had given [in 197/6], Rome could take away."[8] These observations are valid ones, but the impetus for the action may have been much less a matter of farsighted statecraft than a desire to grant a wish to the pro-Roman Chremas and thereby strengthen his party's control of the Akarnanian koinon.

I believe it extremely likely that the radical pro-Roman party was centered at Thyrreion. On every occasion demanding a foreign policy decision after the introduction of Rome into this area, Thyrreion is the only Akarnanian community which is consistently pro-Roman. This city was where the treaty was struck between Aitolia and Rome in 210; a pro-Roman exile from this city appears in a delegation sent to the Senate by Flamininus in 198/7 to support his policies and level charges against Philip;[9] Thyrreion was probably part of the pro-Roman northwestern faction in 197 which attended the rump session of the League; the city closed its gates to Antiochos in 191 and informed the king that it would do nothing without the consent of the Roman commanders; and Thyrreion was the seat of the League meeting called to introduce Roman garrisons into Akarnania.[10] On these grounds, I think we can reasonably conclude

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that Chremas, the most openly pro-Roman of all the Akarnanians, was a citizen of this polis, and that his party was centered here. In order to insure that Leukas would remain loyal, and also to make the traditionally pro-Roman city of Thyrreion the chief city of the Akarnanian League (all probably at the request of Chremas and his party) the Romans "freed" Leukas from the Akarnanian koinon.[11] Since the chief city of the League was a position assumed by the strongest and most influential city, Thyrreion naturally assumed the place vacated by Leukas without the Romans having to say a word. Since this was orchestrated by the Thyrreion-based party of Chremas, we hear of no negative reaction to this deed. The Romans very shrewdly were able at one stroke to make Leukas more directly responsible to themselves and to make the most pro-Roman of the Akarnanian poleis the chief city of the koinon.

Hereafter, Akarnania really lapses from our historical record except for an occasional appearance now and again. A fragment of Polybios which is dated to 159 says that events changed for the better after Chremas' death, but we are not given any details.[12] Nevertheless, with no one attacking their borders and the Leukas Canal again probably navigable, life continued in relative peace for the Akarnanians.[13] It was, therefore, not considered necessary by the Romans to dissolve the Akarnanian koinon when the affairs of Greece were reorganized after Mummius' defeat of the Achaian League (146).[14] The members of the League attested by mid-second century inscriptions are Oiniadai, Metropolis, Koronta, Astakos, Alyzeia, Medion, Phoitiai, Thyrreion and Anaktorion; Palairos is not attested by name, but if Klaffenbach's dates (admittedly

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based on letter forms) for a few grave stelai are correct, Palairos should also be added to this list. We know the city was inhabited when Nikopolis was founded. Beyond their existence as poleis, we unfortunately know little about these towns. Yet, if I am correct in assuming that Akarnania (and especially the western coastal communities) derived some income from the trade which passed by her coast, then she too would have been affected adversely as the level of prosperity fell in Greece. Korinth's elimination as a trading center in 146 would have had a particularly adverse effect on the ports of Akarnania. And as the volume of coastal trade dropped, so too must have the prosperity of Akarnania's communities, especially the western coastal poleis.[15]

It is generally agreed that events of the first century B.C. destroyed any remaining prosperity Greece may have had following the defeat of the Achaian League and the resultant settlement. J.A.O. Larsen even compares this period in Greece to that of the Hannibalic War in Italy.[16] Akarnania did not escape this general hardship. During the first half of the first century, the coastal sites of Akarnania suffered from pirate raids. We are told by Plutarch that the temples of Apollo at Aktion and at Leukas were attacked and plundered.[17] The situation got so bad, that Akarnania was included in the areas specifically protected by legati of Cn. Pompeius in 67.[18] The poleis of Akarnania's western coast seem to have been severely affected by these raids if the lack of much first century pottery from these sites bears any relationship to the area's prosperity.[19] Yet, from Strabo's account we do know that Palairos, Alyzeia, Astakos and perhaps Oiniadai were inhabited

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civic entities until the settlement of Nikopolis in 30. But by the middle of the century, they had probably reached the pitiful state in which we find them when Nikopolis was founded.[20]

Such was the condition of Akarnania when Cicero passed through in 51 on his way to Cilicia. On his return trip, he spent two nights and a day at Alyzeia and then proceeded to Leukas where he met with his Thyrreian friend for two hours to arrange for a ship to fetch Tiro from Patras should the occasion arise. Cicero's party then continued to Aktion where they were held up for a day by the weather; they then proceeded along the coastal sailing route to Italy.[21]

In the 20 years after Cicero's last visit, Akarnania suffered with the rest of Greece through the forced contributions and requisitions of supplies demanded by the various Roman generals who struggled with each other on Greek soil for the control of Rome.[22] First, Caesar controlled this area of Greece, but then lost it in 48 to legati of Pompeius. A short while later, when Pompeius was shut up in Dyrrhachion, he brought in supplies from Kerkyra and Akarnania. He presumably maintained some sort of control over these two areas since neither people probably profited from this transaction. Nevertheless, in the final battle at Pharsalos, Akarnanian peltasts appear on Caesar's side.[23]

"The campaign of Actium was probably the most burdensome for Greece of all the campaigns of the civil wars and, coming as it did after a long series of wars and exactions of contributions, thoroughly exhausted most, if not all parts of the country."[24] The responsibility to reverse this process fell to the victor of the battle of Aktion. Never one to

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forsake religious propaganda, Augustus t-eated the sanctuary of Aktian Apollo with pious care after his victory. The sanctuary was refurbished, the games were expanded and a naval museum was built to house some of the ships which had taken part in the battle. The establishment of Nikopolis on the opposite shore of the straits was intended to provide land for a large number of veterans and to provide a prosperous center which might help to revitalize the surrounding districts.[25]

The establishment of Nikopolis was interpreted by H. Swoboda as the death knell of the Akarnanian League,[26] but in reality, the League had probably ceased to function in any meaningful way during the depressed years of the first half of the century. We hear of no combined effort to resist the attacks of the Dolopes or the Agraioi in the 50's (see n. 20), so it seems that the League had ceased to function effectively at least by this time.[27] For this reason, no source tells us that the Akarnanian League was dissolved when Nikopolis was founded; there was nothing to disband. In order to motivate the Akarnanians to migrate to the new city, Augustus had the statues removed from Akarnanian shrines and transported to Nikopolis. Henceforth, there was to be no doubt concerning the seat of the region's civic and religious center; all other communities were more or less subordinate to the new city and as such called περιοικίδες.[28] It was a time that saw the final breakdown of city life in Akarnania, typified by the building of country homes and farm complexes in the open countryside.[29] Life obviously continued, but a recorded history of these years would reveal little more than the local dealings between owners of property, herdsmen and representatives

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of the emperor.[30] This corner of the Greek mainland was now well on its way to becoming forgotten by the rest of the world.

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Notes to Chapter X

[1] Astakos: IG IX 1^2, 208a, line 4; 209a, line 2; Koronta: 209b, line 19; Metropolis: 208a, line 6; 209a, line 4; 588, line 11; Oiniadai: 208b, line 19; 209b, line 17 (concerning Oiniadai, cf. also p. 307 n. 11.

[2] Livy 42.38.2-4. For the time, see Oost (1954 : 68-71). In a very real sense, the Roman *legati* were correct.

[3] Polyb. 28.3-5; Livy 43.17.

[4] Oost (1954 : 79).

[5] Polyb. 30.13.1-6; Livy 45.31.6 ff. This action was not only directed at Akarnania; such lists were sent to all other states and leagues in Greece, and a special commission was sent to Achaia.

[6] Livy 45.34.8-9; cf. Oost (1954 : 84-85).

[7] Livy 45.31.12. That Leukas became a *libera civitas* is implied from her coinage; cf. Head (1911 : 330). On this matter, cf. also Oberhummer (1887 : 191-92) and Oost (1954 : 82-83).

[8] Oost (1954 : 83).

[9] Polyb. 18.10.10.

[10] Thyrreion appears to have maintained her close relationship with Rome in the years following this agreement as well. In 94, a treaty of alliance was made between the Thyrreians and the Romans (cf. IG IX 1^2, 242) and we are informed by a letter of Cicero (*Fam.* 16.5) that he had a friend (or at the very least, a personal contact) at Thyrreion. It is also interesting that the Thyrreians presumably maintained that one of their forefathers had served as a pilot for Aineas' crossing from Buthrotum to Italy, and that this man chose to stay in Italy with the Trojans as a colonist rather than return with the other Akarnanians who had accompanied the fleet's crossing (Dion. Hal. *Ant. Rom.* 1.51).

[11] Cf. n. 7. The evidence behind the assumption that Thyrreion became the chief city of the League is again based on the coinage; cf. Imhoof-Blumer (1878 : 41, 174). Imhoof-Blumer also observes (p. 174) that there may have been a concurrent issue of federal type coinage from both the mint at Leukas and the mint at Thyrreion for a few decades prior to 167. He interprets this as a possible periodic rotation of the seat of the chief city. I would argue that this merely shows that the designation "chief city" was not a formal, constitutional one, and that Thyrreion was engaged in competition for the position of supremacy within the League.

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[12] Polyb. 32.20. Polybios makes it very clear that he detested Chremas and his kind, so he may simply mean that the world was better off when such a scoundrel as Chremas was gotten out of the way.

[13] See p. 246 and n. 60.

[14] Cf. Larsen (1938 : 309) who doubts the validity of Pausanias' sweeping generalization (7.16.10) that all federal leagues were dissolved only to be reorganized soon thereafter. Larsen argues that "it is extremely unlikely that the leagues that had remained loyal were disturbed .... After all by this time the leagues were innocuous." Cf. also Swoboda (1913 : 303 with n. 13) and also Busolt-Swoboda (1926 : 1468). I should also add that it is highly probable that IG IX 1^2, 209a postdates at least 148. The inscription records a grant of proxenia to a Pergamene doctor who had accompanied an embassy to Makedonia. The letter forms are dated by Klaffenbach to the mid-second century. It is difficult to imagine an embassy going to the royal government of Makedonia in the mid-second century when the Akarnanians were at pains to stress their pro-Roman stance. Therefore, it is more likely that this embassy went to visit the Roman provincial governor in Makedonia, thus placing the inscription sometime after 148; cf. also Oberhummer (1887 : 196-98).

[15] On the Achaian War in general, see Larsen (1938 : 302-11); on the treatment of Korinth in particular, see Larsen (1938 : 305). Polybios 36.17.5-7 presents a depressed picture of the general prosperity of Greece at the time of his writing; but cf. Larsen (1938 : 418-21) who shows that some areas of Greece remained prosperous as late as the beginning of the first century B.C. He does admit (p. 419) that the destruction of Korinth seems to have seriously affected the prosperity of Epiros (cf. Strabo 7.7.3), and I would argue that the same would hold true for Akarnania.

[16] Larsen (1938 : 422-35) discusses the disastrous economic effects of the first century on Greece; for the particular statement quoted in the text concerning the Hannibalic War, see Larsen (1938 : 422).

[17] Plut. Pomp. 24.

[18] Appian Mith. 95 tells us that Plotius Varus and Terentius Varro were appointed by Pompeius as his legati to police the Ionian Sea μέχοι Ἀκαρνανίας.

[19] Strabo's report that some Roman general, finding the area desolate, took away the Lysippan statues from the Herakles sanctuary at Alyzeia may date to this period (10.2.21). It is true that many plundered statues were shipped to Akarnania and then to Rome following the events of 146 (Polyb. 39.3.10), but the proxeny decrees mentioned above do not allow us to believe that Alyzeia was desolate at that time.

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[20] The coastal sites were not the only communities to be troubled during these years. Cicero informs us (Pis. 91, 96) that the interior was attacked by the Agraioi and Dolopes in 57/6.

[21] For the outbound trip, cf. Cic. Att. 5.9; for the return trip, cf. Cic. Fam. 16.1-7, 9; see also p. 176 n. 10.

[22] Cf. Larsen (1938 : 431-35) for the social and economic effects of the events of these years.

[23] For these events, cf. Caes. BCiv. 3.56.1, 58.4; and Appian BCiv. 2.70 (291).

[24] Larsen (1938 : 434).

[25] For Augustus' treatment of the Aktian sanctuary, cf. Strabo 7.7.6; and Dio Cass. 51.1.2; see also Sarikakis (1965 : 145 ff.) for the festival after Augustus' refoundation of the sanctuary and cult.

[26] Swoboda (1913 : 304).

[27] The possibility exists that the Akarnanian League had already ceased to function officially as the representative voice for individual member poleis by the beginning of the first century. The treaty of alliance between Rome and Thyrreion dating to 94 (IG IX 1^2, 241) could be interpreted as an indication that the Akarnanian League was no longer in existence. Therefore, the Romans made an alliance with the Thyrreians and not with the koinon of the Akarnanians. Oberhummer (1887 : 197-98) is ambiguous on the significance of this treaty.

[28] Cf. Strabo 10.2.2; see also pp. 103-104. Most all of the Akarnanian περιοικίδες continued to lose population and decline. Some sort of settlement may have continued to exist at Alyzeia and Astakos, although our evidence is not very clear. In the various editions of Ptolemaios' Geographica, Alyzeia (written Azylia or Ἀζυλεία) seems to be listed with topographical place-names, while Astakos seems to be included with the names of towns along this coast (the passage is variously enumerated as 3.13 and 3.14; the Greek text of Nobbe enumerates it as 3.14.6, 10). We should be wary of such a rigid distinction, however. Alyzeia is recorded on the fourth century Tabula Peutingeriana [see Miller (1916 : 563)] presumably as a suitable stopover point for travelers. Furthermore, the Mytikas Valley seems to have been inhabited during the sixth or seventh century, but there are no indications that the inhabitants had anything to do with the site of the ancient city. Some sort of community certainly existed in this valley during the early Byzantine period; cf. p. 104 with n. 64, and p. 119.

[29] See Kirsten (1958 : 613-14) for the building of such edifices near Palairos. Cf. also the remains of a probable farm complex of this period built on the ruins of the Pirgos on the Sklavaina Road (see Ap-

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pendix B, nos. 10-11, and text, p. 140); cf. also the mausoleum of an obviously wealthy man who must have owned a large estate in the Mytikas Valley (p. 119 with n. 96). According to Strabo, the Akarnania of his day was largely desolate, and therefore, well adapted to horse-raising (8.8.1): καὶ ἡ τῶν Αἰτωλῶν δὲ καὶ Ἀκαρνάνων ἐρημία πρὸς ἱπποτροφίαν εὐφυὴς γέγονεν οὐχ ἧττον τῆς Θετταλίας.

[30] We do know that at the time of Trajan, Akarnania with Epiros formed a procuratorial province; cf. Oberhummer (1887 : 208 with n. 4).

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APPENDIX A: THE WINDS AND WEATHER OF WESTERN AKARNANIA

Introduction

To appreciate fully the utility of the western Akarnanian harbors, one must have a clear understanding of Mediterranean weather trends and the resultant prevailing and local winds. Armed with this information, one can then assess the ease or difficulty a sailing vessel would experience in sailing along the coast from point to point, and also appreciate the relative security offered by these harbors at various times of the year. There is sufficient evidence to show that merchant galleys and warships relied on their sails whenever possible when making long passages, using their oars only when absolutely necessary.[1] And it scarcely needs to be said that vessels propelled only by sails were totally reliant on the wind unless they were towed.[2] Thus, a study of the wind can provide an important insight into most of the recorded nautical activity we have for the waters off this coast. Yet, before we can fully utilize such a wind study, two matters must be examined: 1) the efficiency of ancient sailing craft in sailing at various angles relative to the wind, and 2) the probability that today's winds blow at the same time of the year and with approximately the same frequency as they did during the last four or five centuries B.C.

Students of maritime history have varying views concerning the efficiency of ancient ships in utilizing the wind. This efficiency is manifested in two ways: hull speed, and how well a ship can point and still maintain adequate headway.[3] I accept as reasonable the calculations of L. Casson on both matters. From what evidence we possess, it

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seems that a general maximum speed of 4-6 knots is indicated for merchant vessels. And although it is difficult to be certain without full-scale models, it seems that ancient merchant ships could not point much higher than about 78° into the wind.[4] When this was done, the overall speed of the boat on the course made good to windward dropped by at least 50%. Thus, it took Mark the Deacon five days to sail from Byzantion to Rhodes and ten days for the return trip.[5] The logical conclusion seems unavoidable that often it must have been wiser to wait for a favorable wind[6] rather than go through the slow, tedious process of tacking.[7] In general, the ships of the ancient world preferred to sail beam to the wind, or downwind on a broad reach or run (see diagram, n. 6). It was on these points of sail that the ship performed best and hull speed could be attained if the wind was fresh. It does not take much "sea sense" to realize however, that if a boat sails downwind from point A to point B, it must necessarily face an upwind voyage back to point A unless the wind changes. It is generally stated that the prevailing summer winds of the Ionian Sea are northwesterly,[8] and offshore this is true. But the winds inshore, next to the coasts, are affected more by local factors and cannot so easily be lumped into the prevailing northwesterly category. These are the winds which were utilized by coastal traders and which must now be considered in detail if we are to see how vessels sailed from Oiniadai to Leukas, apparently against the prevailing northwesterly trend.

Yet, before modern wind data can be utilized for the specific study of the ancient wind conditions in any given area, it must be established that the winds of today are essentially the same in

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frequency and direction during the course of the year as they were in antiquity. L. Casson's statement that "the same winds prevail today as in the days of the ancients," is rather bold for being based on two slender examples.[9] Prevailing winds are set in motion by very large scale pressure patterns. In the case of the Mediterranean, these patterns stretch from the Azore Islands to India and from continental Asia to the Atlas mountains of northern Africa (see below). These pressure patterns are not static over time and change according to climatic variations. The current view among climatologists is that during the last five centuries before Christ, the Mediterranean area was somewhat cooler and wetter than it is today.[10] What effect did this have on the winds? Can we assume that the winds of this time period blew essentially from the same directions at the same times of year as they do today? My analysis presented in Table 1 below suggests that the answer to this question is yes; let us now examine the process by which this conclusion was reached.

Our initial problem is one of finding ancient wind observations stated in such a way that they can be compared with modern wind statistics. These statistics are compiled by various National Meteorological Services from observations taken at shore stations and from ships at sea. The winds are described according to an eight-part division of the compass rose, each section comprising an arc of 45^{o}--north, northeast, east, southeast, south, southwest, west, and northwest (Fig. 39).[11] Standard procedure dictates that observations are made three times a day--at 0800 hours (8 AM), 1400 hours (2 PM) and at 2000 hours (8 PM)--although this practice is not always followed. Both the wind's speed

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and direction are recorded. These daily observations are collected over a period of years, averaged, and then expressed in monthly tables. The eight winds are listed, as are calms, along with the average frequency (expressed in percent) that each wind was observed during each separate month (cf. Tables 4-8). For example, at the Leukas meteorological station (cf. Table 6), we find that the northwest wind was observed blowing 42.17% of the time during the month of August over the years 1950 - 1971. We can also see that the wind was mostly observed blowing at speeds of F 1 - F 3 (cf. Tables 2 and 6).

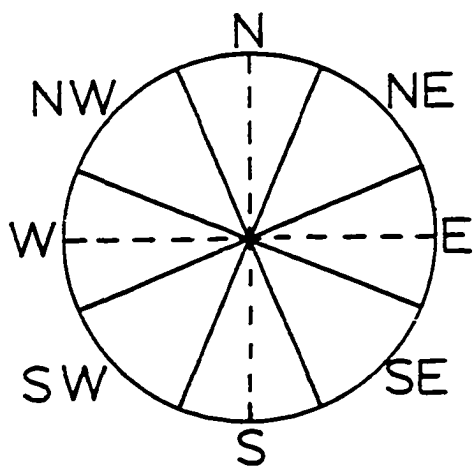

Fig. 39

As previously stated, our problem is in finding reliable ancient data which can be compared to the modern data expressed in such a format. I decided to use the observations of Aristotle's Meteorologica, Book 2 and Theophrastus' De Ventis, because these observations are for the most part clear and systematic, that is, winds from numerous points of the compass are mentioned. And since these two authors were

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attempting to define scientifically the overall wind patterns of the Mediterranean, they both made a conscious effort to assimilate wind observations from diverse areas. Their sources reflect this attempt; by far, most examples of local winds come from places in Greece, but observations are noted from elsewhere, particularly by Theophrastos who mentions Babylon, Susa, Libya, Egypt, Phoenicia, the Pamphilian Gulf, Pontos, Italy and Sicily.[12] The observations themselves come from sailors' and farmers' proverbs, from travelers' reports and from the authors' own experiences.[13] It is clear in most cases, that a wind observation came first, and then a theory was developed to explain its occurrence. And although many of their theories of wind generation have since been discredited by modern science, the initial observations behind the theories remain unaffected. These observations are, therefore, reliable and since they come from numerous geographical places, are particularly comparable to the averaged sets of data at our disposal. I should also add that the ancient data date roughly to the middle of the period investigated by this study.

In theory, my task was quite simple; I merely compared an ancient observation with modern statistics. If the data agreed with the observation, I classified the statement as a "good" correlation. Partial agreement resulted in a "fair" correlation. Total disagreement was termed a "poor" correlation. In practice however, a certain amount of interpretation was required before the ancient observations could be compared with the modern data.

Before considering a few examples, two matters must be examined--first, the wind system of Aristotle and Theophrastos (cf. Fig. 40).

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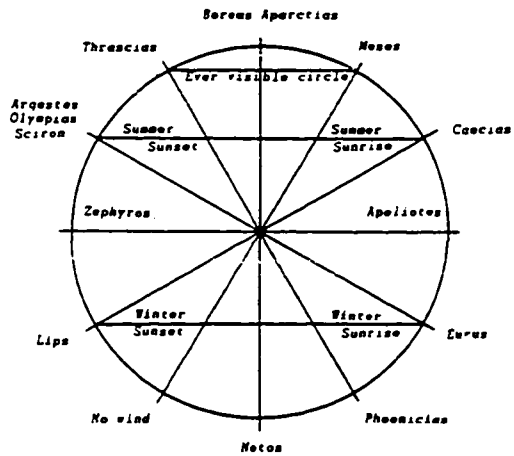

Fig. 40

Aristotle's wind system (which is also used by Theophrastos) is defined in Book 2, Chapter 6 of his Meteorologica. The major divisions are N, S, E and W, with subdivisions determined by the positions of the summer and winter solstial sunrises and sunsets as viewed from the equator. Further subdivisions fall between these points and the poles. By comparing Figs. 39 and 40, one can translate the ancient wind directions into modern terms. This should not be taken to extremes, however, and it would be a mistake to apply rigid directional distinctions to the winds delineated by this ancient wind rose.

I have allowed a variance of up to 45° in wind direction as still constituting a "good" correlation between ancient and modern observations. Thus, when Theophrastos writes that winds blow from the east in winter (Vent. 47), I consider modern data from the northeast and southeast as well as from due east. This may seem a bit generous, but I believe I am justified in doing this for three reasons. First,

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irregularities of the local topography near observation stations can slightly change the apparent wind direction. Second, the ancients of Aristotle's day did not possess an orientation device such as a compass, and therefore, precise recording of a wind's direction relative to the exact points on Aristotle's wind rose would have been impossible. And finally, even though this wind rose is slightly different than the one in use today, the major wind divisions are still N, S, E and W, and 45° represents the greatest variation allowable from the midpoints of the four main quadrants (north to east, east to south, south to west, and west to north) without crossing from one quadrant into the next. In other words, a northeast wind might have been perceived as a north wind, but it is not likely to have been perceived as a northwest wind.

We must now consider the dating system used by Aristotle and Theophrastos, because this will determine which monthly tables to consult for a given observation. Two systems are used to define the time of a wind's occurrence. A wind is either said to blow during a particular season of the year or during the rising and setting of certain constellations. These dates, relative to our modern calendar, have been convincingly worked out from inscriptional and literary evidence by A. Rehm, and I have adhered to his conclusions, particularly concerning the months of the seasons.[14] Spring ran from mid-February to the beginning of May; summer from early May to mid-September; autumn from mid-September to early November; and winter from early November to mid-February.

With this information in mind, we are now ready to consider a few examples. Let us first take a relatively simple observation (Arist.

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Met. 364a 32 - 364b 3): "As a rule, opposite winds prevail in opposite seasons: for instance, at the time of the vernal equinox [March 24th], it is Kaikias and winds from the north of the summer sunrise; in the autumn, Lips [a SW wind]; at the summer solstice [June 24th], Zephyros; in the winter, Eurus [a SE wind]." The winds are directionally defined as opposites on the wind rose and the observation is clear: the winds prevail at specifically cited, opposite times of the solar year (κατὰ δὲ τὰς ὥρας τὰς ἐναντίας οἱ ἐναντίοι μάλιστα πνέουσιν). If, as here, the ancient source states that 'x' wind blows at 'y' time of year, I have allowed for two possibilities: either the frequency of 'x' is highest when compared to all other winds at 'y' time of the year, or the frequency of 'x' is highest at 'y' time of year when compared with its own frequencies at other times of the year. If either or both of these conditions prevail, I conclude that the ancient statement correlates well (i.e., "good") with the modern data. In this case, the statement agrees well with the modern data except for the SW wind, Lips.

Not all observations are so straightforward. In a passage of Theophrastos (Vent. 38), the Zephyros is called the mildest of all winds; it blows in two seasons only, the spring and late autumn. If we check the tables for the spring (particularly March and April), and late autumn (October), we find that west winds do prevail, but we will also see that winds from the west blow most frequently during the summer. Have the winds changed slightly so that now they blow in the summer too? Not really; upon closer examination it becomes clear that Theophrastos is not discussing west winds in general, but rather a particular kind of west wind. For the ancients, a wind's name was more descriptive of its

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physical characteristics than its absolute direction.[15] Theophrastos deals with these simple directional west winds in section 47; these winds, called τὰ ζεφύρια and more generally, τὰ πνεύματα ἀπὸ τῆς ἑσπέρας, do blow most frequently in the summertime, as our modern data show. But the particular wind he calls ὁ ζέφυρος is different from these ζεφύρια. In sections 38, 40 and 41, he describes the wind as λειότατος τῶν ἀνέμων, ὁμαλός and πνεῖ δείλης καὶ ἐπὶ τὴν γῆν, καὶ ψυχρός. These are the exact characteristics of the sea breeze experienced by many areas of Greece in the spring and autumn. When the modern data is checked for a light breeze blowing from the west in the afternoon, we find that this condition does prevail in the spring and autumn months.

Since Aristotle and Theophrastos were concerned with general prevailing conditions, most of their observations pertain to winds cited more for their direction than their physical characteristics, but this is not always the case, and care must be taken to exclude those observations which are so qualitative that a comparison with our rather quantitative modern data is impossible.

Before presenting my table of correlations, I must discuss three passages which I believe to be slightly corrupt. First, let us consider De Ventis 10. This passage states that northern winds blow during the winter, late summer and autumn, and that southern winds blow in response to these north winds in the spring and at the end of autumn, in both cases immediately following a period when the north winds are blowing. I have, therefore, disregarded the additional statement that the south winds also blow κατὰ χειμῶνα, because if the north winds blow in winter,

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it is impossible for the south winds to blow "in response" to them at the same time.

A clear corruption occurs in different forms in both the texts of Aristotle (Met. 361b 30-35) and Theophrastos (Vent. 55). Unsettled winds are reported as occurring at both the rising and setting of Orion. Aristotle equates the rising of the constellation with the change from spring to summer (i.e., in early May); but Theophrastos equates it with the change from summer to autumn (i.e., in mid-September). Both texts are wrong; from other sources, we know that Orion rose during the last week of June and the first week of July, right in the middle of the summer season.[16] Therefore, I have disregarded the statement that the winds are unsettled at Orion's rising. Perhaps it would be best to disregard both statements, or at least in the case of Aristotle, to read Pleiades in place of Orion, a constellation which does rise and set as he indicates, in early May and mid-November. Nevertheless, I have decided to include the statement that unsettled conditions prevailed in mid-November because both authors are in agreement about this fact; and indeed, it is in agreement with modern observations.

Keeping the above observations in mind, we can now turn to the analysis outlined below in Table 1. Seventeen separate statements concerning winds from all points of the compass, calms, etesians and gales are listed. Immediately following the ancient observation is listed the source or sources for the statement. Many statements simply note the occurrence of a particular wind at a particular time of year. If particular characteristics of the wind are noted in the ancient source which can be checked against our modern data, this has been noted. All

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17 statements have been judged capable of testing according to the aforementioned data, and have been compared with the following sets of modern data: 1) averaged observations taken from ships in the Eastern Ionian and Western Aegean Seas (35^{o}-40^{o}N, 20^{o}-25^{o}D) = Table 3; and 2) specific data taken from shore stations at Zakynthos, Leukas and Athens = Tables 4-7. The data from Zakynthos give a true picture of the offshore winds in the E Ionian; the data from Leukas are the most reliable available from a shore station near Akarnania; and the data from Athens have been included as a control.

The Tables

In order to simplify the appearance of the results, I have refrained from including unnecessary statistical data in Table 1. The complete statistical pool from which I draw my conclusions is contained, as noted above, in Tables 3-7. I have also been forced by limited space to resort to numerous abbreviations in Table 1, and while most of them are self-explanatory, I have included a list of them below.

Abbreviations used in Table 1

Cara.: Carapiperis (1968).
dom.: dominant
E: east wind, east
EMY: unpublished data from the Ἐθνική Μετεωρολογική Ὑπηρεσία, Greece; Hellenikon station; period: 1949-1968
F 1 - F 8+: "F" is the symbol for "Beaufort Force," a method of designating wind speed. For an explanation of the various values and their modes of estimation, see Table 2, below.
freq.: frequency, frequencies
Ginis: Ginis (1974)
M: Aristotle Meteorologica
max.: maximum
MP III: Great Britain (1970)

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MP IV: Great Britain (1968)
N: north wind, north
NE: northeast wind, northeast
NW: northwest wind, northwest
quad.: quadrant (N quad. denotes winds blowing from northern directions, i.e., from the NW, N, and NE)
S: south wind, south
SE: southeast wind, southeast
SW: southwest wind, southwest
V: Theophrastos De Ventis
W: west wind, west
wk.: weak
WNW: west-northwest wind, west-northwest (this direction is found on the wind rose midway between northwest and west; cf. Fig. 39)
WP: Watts (1975a)
WP IV: Watts (1975b)
=: equals
≃: is approximately equal to
0800: 8 AM
1400: 2 PM
2000: 8 PM

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Table 1

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
NW,N NE	M 364a 32-364b 3	spring equinox (Mar. 24)		E Ionian/W Aegean (WP IV) W,NW dom.; W=NW in freq.	Zakynthos (Ginis) NW dom.
				Leukas (Ginis) NW dom.	Athens (EMY) N winds dom. in Mar.; N=S in freq.; throughout most of the year, N winds are dom.
WNW, NW, N,NE	M 364b 3 ff. (cf. also 361a 4-7 363a 3-4 364a 5-7)	overall average	blow with greatest strength and freq. during the year	E Ionian/W Aegean (WP) N quad. winds blow with greatest strength and freq.	Zakynthos (Ginis) NW dom., followed by SE; W=N in freq.
				Leukas (Ginis) NW dom.	Athens (MP IV, EMY) N dom., followed by NE
N,S	V 2; cf. M 361a 6-7		strong winds which blow the longest time	E Ionian/W Aegean (MP) N and S winds are more freq. than E and W winds; cf. wind roses in MP III and IV, Figs. 4-7	Zakynthos (Ginis) N and S blow most freq. and with greatest strength
				Leukas (Ginis) NW dom., followed by SE; strongest winds come on average from N and S quarter	Athens (MP IV, EMY) N and S quad. winds blow most freq.; N winds blow with greatest strength

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Table 1 (cont.)

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
E	V 47	winter	blows early in the morning	E Ionian/W Aegean no data from the winter months in WP IV	Zakynthos (MP III) SW dom.
				Ionian Sea (Dhoukaton Light, Ginis) Nov.: NW,SE dom.; Dec.: NW,E,SW dom.; Jan.: NE,E dom.	
				Leukas (Ginis) Dec.: SE dom.; Jan.: SE,NE dom.; Feb.: SE,NE dom.	Athens (MP IV) NE dom. at 0800
SE	M 364b 3	winter		Ionian Sea (MP III) SE dom.; N is a close second	Zakynthos (MP III) SE freq. are negligible
				Leukas (Ginis) SE slightly dom. over NE	Athens (EMY) SE freq. negligible, but greatest SE freqs. occur in Nov., Dec., Feb. and Mar.

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Table 1 (cont.)

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
S	V 48	15/25 July - 22 Nov./1 Dec. "at the time of the Dog Star"	annual	Ionian Sea (Dhoukaton Light, Ginis) greatest S freq. occurs in Nov.	Zakynthos (Ginis) SW rises in Oct. to reach a max. freq. in Dec.; S winds rise in Oct., but blow most freq. in Apr.; highest SE freq. in Oct.
				Leukas (Ginis) SE rises drastically in Oct. to peak in Nov. and Dec.	Athens (MP IV and EMY) greatest S quad. freq. in Apr. and May (MP IV); greatest S freq. in May and June (EMY)
SE,S SW	V 10	a) spring b) end of autumn (Oct. - Nov.)		Ionian Sea (Dhoukaton Light, Ginis) Oct. to Apr., S quad. freqs. are high; SW freq. high in Nov., Dec.; S winds drop off after Apr.	Zakynthos (Ginis) SW rises in Oct. to reach max. in Dec.; S blows most freq. in Apr.
				Leukas (Ginis) S quad. freqs. rise in Oct. and continue until Apr. after which they fall; Nov., Dec., S quad. dom.; Feb., Mar., S quad. dom.	Athens (EMY) greatest S quad. freqs. occur in May; Apr. and June follow; S quad. freqs. rise slightly in Nov. and Dec. only to fall in Jan.

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Table 1 (cont.)

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
SW	M 364b 2	autumn		E Ionian/W Aegean (WP IV) N,NW dom.; N=NW in freq.	Zakynthos (Ginis) Sept.: NW fully dom.; Oct.: NW,SW dom.; NW=SW; Nov.: SW dom.
				Leukas (Ginis) Sept.: NW fully dom.; Oct.: NW slightly dom. over SE; Nov.: SE dom.	Athens (MP IV, EMY) at 0800, NE dom.; at 1400, SW slightly dom. over NE (MP IV); SW freq. highest during summer months (EMY)
W	V 38	a) spring b) late autumn	ὁ ζέφυρος is most gentle of all the winds; blows in the afternoon toward land; cf. pp. 376-77	E Ionian/W Aegean (WP IV) spr.: W,NW dom.; W=NW in freq.; highest freqs. are winds of F 1-3; aut.: N,NW dom.; N=NW in freq.; highest freqs. are winds of F 1-3	Zakynthos (Ginis) Feb.: SW dom.; Mar.: NW=SW, dom.; Apr.: NW=SW, dom.; May: NW fully dom.; Sept.: NW fully dom.' Oct.: NW=SW, dom.; Nov.: SW dom.
				Leukas (Ginis) spr.: NW dom.; Oct.: NW≃SE, dom.; Nov.: SE dom.	Athens (MP IV, EMY) spr.: 0800 NE dom.; 1400 S,SW dom.; W,NW freqs. very low; Oct.-Nov.: 0800, NE dom.; 1400 S dom., followed by SW,NE (MP IV); highest freqs. of W winds are of F 2-3 (EMY)

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Table 1 (cont.)

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
W	V 47; cf. M 364b 2-3	summer at the time of the summer solstice (June 24)	blows in the afternoon "from the setting sun"	E Ionian/W Aegean (WP IV) June, July, Aug. NW dom.; at Dhoukaton Light (Ginis) and elsewhere, W quad. freqs. increase in the afternoon	Zakynthos (Ginis) June, July, Aug. NW dom.; NW freq. increases in the afternoon
				Leukas (Ginis) sum.: NW dom.; freqs. of W quad. increase in the afternoon	Athens (MP IV, WP) 0800 NE dom.; 1400 SW dom.
all winds	V 55 M 361b 30-35	mid-Nov.; cf. p. 378	winds are unsettled and unpleasant	E Ionian/W Aegean (WP) general deterioration of stable anticyclonic weather in mid-Nov.; gale freqs. increase markedly in Nov.; weather is very changeable	Zakynthos (Ginis, WP, MP) Nov.: no clear dom. of any wind, except perhaps SW; second highest monthly average in rainfall during Nov.
				Leukas (Ginis, MP III, WP) Nov. gale freqs. jump from nothing to 1%; they drop to 0.1% in Dec.; a great increase in low pressure areas occurs in Dec. (WP)	Athens (MP IV, EMY) Nov.: NE,N winds slightly dom. over other winds; gale freqs. jump to winter average of 1% (N,NE,S and SW gales of approx. equal freq.)

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Table 1 (cont.)

Wind	Source	Time of Year	Characteristics	Modern Frequencies	
Etesians (NW, N,NE)	M 361b 35-362a 2; cf. M 362a 11-12 and V 11	blow after the summer solstice and the rise of the Dog Star (late July)	blow in the daytime and drop at night	E Ionian/W Aegean (WP, MP) general occurrence of the NW "summer monsoon" (cf. WP, p. 539); winds die at night (Cara.)	Zakynthos (WP IV) data are in complete agreement; NW freq. lower at 0800 than at 2000; what few calms occur, do so at 0800; winds die at night (Cara.)
				Leukas (Ginis) June, July, Aug., highest freq. of NW of all months; winds die at night (Cara.)	Athens (MP IV, EMY) July-Sept.: N dom., followed by NE; winds die at night (Cara.)
Gales	M 365a 1-3	a) greatest freq. occurs in aut. b) second greatest freq. occurs in spr.	mostly from N, NW and WNW	E Ionian/W Aegean (WP IV, MP) aut. gales from all points equal 5% of all winds; spr. gales from N,NW,W,W=3%; winter F 6-7 ≃ 4% (MP); no win. data in WP IV	Zakynthos (Ginis) greatest freq. of F 8+ gales in win.; N,NE dom.; spr. freq. of F 8+ gales is next highest
Calms	M 361b 23-24	from the rising of Orion (late June/ early July) to the advent of the Etesian winds and their precursors (late July)		Ionian Sea (MP III) wind roses for July (Fig. 6) show greatest number of calms; Dhoukaton Light (Ginis) shows greatest freq. of calms in July, followed by Sept., then June	Zakynthos (Ginis) greatest freq. of calms occurs in Apr.; freq. of calms is roughly the same in May, June, July, Aug., Sept., and Nov.
				Leukas (Ginis) lowest freq. of calms occurs in June and July	Athens (EMY) greatest freq. of calms in Apr. and May

Table 2

The Scale of Wind Force (Based on the Beaufort Scale)

Beaufort Number	General Description	Limit of mean speed in knots	Description
0	Calm	Less than 1	The sea is mirror smooth. Smoke rises vertically. Flags hang lifeless. No way can be made. Pennants do not respond. Cup anemometers do not turn.
1	Light air	1 to 3	Scaly or shell-shaped ripples. Smoke drifts. Pennants may just respond. Wind vanes and cup anemometers may not actuate. Dinghies make stealthy way. Spinnakers do not fill.
2	Light breeze	4 to 6	Small short wavelets with glassy crests which do not break. Pennants, wind vanes and cup anemometers respond. Small spinnakers may fill. Dinghies make sensible way. Wind can be felt on the face. Leaves rustle. Light flags do not fully extend.
3	Gentle breeze	7 to 10	Large wavelets which may break giving glassy foam. Scattered white horses at upper limit. Helmsman and crew can sit on weather gunwale of dinghies. Fourteen foot and longer dinghies may plane. Spinnakers fill. Light flags extend fully. Leaves in constant motion.
4	Moderate breeze	11 to 16	Small waves develop and lengthen. White horses are fairly frequent. Dinghy crews lie out. Twelve foot dinghies may plane. Most flags extend fully. Small branches move. Dust and loose paper may be raised.
5	Fresh breeze	17 to 21	Moderate waves with white horses. Some spray. Crested wavelets on inland waters. Racing dinghies need to ease sheets in gusts. Genoas near the limit. Small trees in leaf sway. Tops of tall trees in leaf in noticeable motion. Upper limit to winds which can be substantially modified by thermal wind forces other than coastal slope and mountain gap winds.
6	Strong breeze	22 to 27	Large waves begin to form. White foam crests more extensively distributed. Probable spray. Many cruising craft seek shelter. Edge of 'yacht gale force'. Many dinghies reef substantially and are overpowered when under full sail. Many capsizes. Large branches of trees in motion. Wires whistle.
7	Near gale	28 to 33	Sea heaps up and white foam from breaking waves blown in streaks down the wind. Most cruising craft find shelter. Racing yachts may just continue to carry spinnakers. Dinghies fully reefed. Difficult to sail with full main only. Whole trees in motion. Inconvenience experienced walking against wind.
8	Gale	34 to 40	Moderately high waves of greater length. Edges of crests begin to break into spindrift. Only necessity or racing keep craft at sea. Dinghies under jib only or else overpowered even when fully reefed. Twigs broken off trees. Difficult to walk against wind.

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Table 3

Wind Frequencies: E Ionian and W Aegean (35^{o}-40^{o}N, 20^{o}-25^{o}E)

Source: WP IV, p. 539

	Wind	F 1-3	F 4	F 5-6	F 7+
Spring	N	3-7%	-	-	3%*
	NW	8-12%	3-7%	3-7%	3%*
	W	8-12%	3-7%	3-7%	3%*
	SW	3-7%	-	-	-
	S	3-7%	-	-	-
	SE	3-7%	-	3-7%	-
	E	3-7%	-	-	3%*
	NE	3-7%	-	-	-
	Calms	3-7%			
Summer	N	8-12%	3-7%	3-7%	0.2%*
	NW	26-44%	8-12%	3-7%	0.2%*
	W	8-12%	3-7%	-	0.2%*
	SW	3-7%	-	-	-
	S	-	-	-	-
	SE	-	-	-	-
	E	-	-	-	-
	NE	3-7%	-	-	-
	Calms	3-7%			
Autumn	N	8-12%	3-7%	3-7%	5%*
	NW	8-12%	3-7%	3-7%	5%*
	W	3-7%	-	-	5%*
	SW	3-7%	-	-	5%*
	S	3-7%	-	-	5%*
	SE	3-7%	-	-	5%*
	E	3-7%	-	3-7%	5%*
	NE	3-7%	3-7%	3-7%	5%*
	Calms	3-7%			

* The total of this category is split over all the directions receiving values.

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Table 4

ΚΑΤΗΓΟΡΙΑΙ ΑΝΕΜΩΝ	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %
	Ι Α Ν Ο Υ Α Ρ Ι Ο Σ									Α Υ Γ Ο Υ Σ Τ Ο Σ								
Ἀσθενεῖς	0,96	10,27	9,44	3,82	3,94	4,90	1,55	8,72	-	2,28	2,28	5,24	1,34	2,82	1,88	3,74	50,13	-
Μέτριοι	2,39	8,84	6,45	3,35	7,41	9,44	1,91	6,69		0,54	0,27	0,94	0,13	0,94	1,75	3,23	17,20	
Ἰσχυροί	0,12	0,72	1,67	1,08	0,96	1,91	1,08	2,03		-	-	-	-	-	-	-	0,27	
Ὁρμητικοί	0,12	-	-	-	-	-	-	0,24		-	-	-	-	-	-	-	-	
Ἄθροισμα	3,59	19,83	17,56	8,25	12,31	16,25	4,54	17,68		2,82	2,55	6,18	1,47	3,76	3,63	11,97	67,60	
	Φ Ε Β Ρ Ο Υ Α Ρ Ι Ο Σ									Σ Ε Π Τ Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	4,33	8,92	4,86	5,91	2,89	6,30	5,12	9,19	0,13	1,73	1,73	11,11	1,85	5,68	5,93	11,98	33,46	0,49
Μέτριοι	2,89	4,86	5,51	6,56	7,35	6,82	6,56	6,69		0,37	0,37	3,58	1,23	2,84	2,47	2,47	11,85	
Ἰσχυροί	0,26	-	0,92	0,66	1,18	0,39	0,39	0,92		-	-	0,12	0,12	0,12	-	0,12	0,37	
Ὁρμητικοί	-	-	-	-	-	-	-	0,39		-	-	-	-	-	-	-	-	
Ἄθροισμα	7,48	13,78	11,29	13,13	11,42	13,51	12,07	17,19		2,10	2,10	14,81	3,20	8,64	8,40	14,.7	45,68	
	Μ Α Ρ Τ Ι Ο Σ									Ο Κ Τ Ω Β Ρ Ι Ο Σ								
Ἀσθενεῖς	1,08	3,35	5,73	6,57	3,11	7,53	4,78	16,01	0,12	4,70	3,63	13,17	9,54	5,91	5,78	6,18	18,68	-
Μέτριοι	1,79	2,03	4,66	9,20	6,57	8,24	3,82	11,95		1,08	1,36	7,26	5,78	4,44	4,44	2,02	3,63	
Ἰσχυροί	0,24	-	0,12	0,60	0,96	-	0,48	1,08		-	-	1,75	-	0,27	0,13	0,27	-	
Ὁρμητικοί	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	
Ἄθροισμα	3,11	5,38	10,51	16,37	10,64	15,77	9,08	29,04		5,78	4,97	22,18	15,32	10,62	10,35	8,47	22,31	
	Α Π Ρ Ι Α Ι Ο Σ									Ν Ο Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	0,99	7,90	4,20	4,44	5,19	4,69	5,93	28,40	0,12	3,33	3,61	4,31	4,17	8,47	5,97	1,94	14,17	-
Μέτριοι	0,25	1,85	5,43	3,46	5,43	5,19	2,59	11,48		1,25	1,81	7,36	6,53	6,67	11,39	2,92	7,36	
Ἰσχυροί	-	0,25	-	0,37	0,12	0,25	0,25	0,99		-	-	1,25	0,14	1,11	3,19	1,25	1,25	
Ὁρμητικοί	-	-	-	-	0,12	-	-	0,12		-	-	-	-	0,14	-	0,14	0,28	
Ἄθροισμα	1,24	10,00	9,63	8,27	10,86	10,13	8,77	40,99		4,58	5,42	12,92	10,84	16,39	20,55	6,25	23,06	
	Μ Α Τ Ο Σ									Δ Ε Κ Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	0,84	7,53	3,94	2,03	4,66	3,82	6,81	35,48	-	3,94	5,02	8,96	5,50	2,51	5,73	3,23	8,96	-
Μέτριοι	0,36	1,08	3,11	1,31	2,15	5,14	3,70	17,08		0,84	3,94	8,72	3,82	7,29	11,71	2,99	7,65	
Ἰσχυροί	-	-	0,12	-	0,12	0,12	0,24	0,24		-	0,60	0,48	0,48	1,19	3,46	1,79	1,08	
Ὁρμητικοί	-	-	-	-	-	-	-	0,12		-	-	-	-	-	-	-	0,12	
Ἄθροισμα	1,20	8,61	7,17	3,34	6,93	9,08	10,75	52,92		4,78	9,56	18,16	9,80	10,99	20,90	8,01	17,81	
	Ι Ο Υ Ν Ι Ο Σ									Ε Τ Ο Σ								
Ἀσθενεῖς	0,74	3,33	4,81	2,22	3,58	3,83	10,37	41,60	0,37	2,21	5,00	6,51	4,00	4,23	5,08	6,10	26,05	0,15
Μέτριοι	0,25	0,74	3,33	0,74	2,47	3,21	4,69	12,96		1,03	2,41	4,82	3,54	4,56	5,99	3,26	11,27	
Ἰσχυροί	-	-	-	-	0,12	0,12	0,12	0,37		0,05	0,14	0,53	0,30	0,52	0,81	0,51	0,80	
Ὁρμητικο	-	-	-	-	-	-	-	-		0,01	-	-	-	0,01	-	-	0,13	
Ἄθροισμα	0,99	4,07	8,14	2,96	6,17	7,16	15,18	54,93		3,30	7,55	11,86	7,84	9,32	11,88	9,87	38,25	
	Ι Ο Υ Λ Ι Ο Σ																	
Ἀσθενεῖς	2,05	1,46	1,61	0,29	2,20	4,39	6,59	52,12	0,59									
Μέτριοι	0,29	1,17	1,02	0,15	0,44	1,17	2,05	21,52										
Ἰσχυροί	-	-	-	-	-	-	-	0,88										
Ὁρμητικοί	-	-	-	-	-	-	-	-										
Ἄθροισμα	2,34	2,63	2,63	0,44	2,64	5,56	8,64	74,52										

ΠΙΝΑΞ 14

Φ. ΔΟΥΚΑΤΟΥ
(1963 - 71)

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Table 5

ΚΑΤΗΓΟΡΙΑΙ ΑΝΕΜΩΝ	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %
	ΙΑΝΟΥΑΡΙΟΣ									ΑΥΓΟΥΣΤΟΣ								
Ἀοδενεῖς	4,49	2,78	1,13	2,95	3,12	12,46	5,16	5,05	0,80	4,08	4,77	1,87	6,84	3,27	1,87	6,67	23,09	1,34
Μέτριοι	11,14	5,51	4,47	3,97	4,14	10,75	4,63	4,11		3,80	2,12	0,64	2,01	1,48	1,17	5,95	27,39	
Ἰσχυροί	5,62	2,07	1,38	1,27	0,96	0,72	0,28	0,53		0,45	0,06	-	-	0,03	0,06	0,25	0,78	
Ὀρμητικοί	0,22	0,08	0,06	-	0,08	0,03	0,06	-		-	-	-	-	0,03	-	-	-	
Ἄθροισμα	21,47	10,44	7,04	8,19	8,30	23,96	10,13	9,69		8,33	6,95	2,51	8,85	4,81	3,10	12,87	51,26	
	ΦΕΒΡΟΥΑΡΙΟΣ									ΣΕΠΤΕΜΒΡΙΟΣ								
Ἀοδενεῖς	3,03	1,85	0,85	3,06	3,93	10,90	5,12	5,54	0,54	3,31	3,11	1,08	5,59	5,28	5,88	6,85	18,15	1,31
Μέτριοι	9,78	5,84	3,63	4,72	5,05	11,99	4,27	6,02		7,33	3,45	0,88	2,85	3,48	3,02	4,68	20,29	
Ἰσχυροί	5,08	2,57	1,30	1,33	0,97	0,64	0,42	0,45		1,63	0,34	0,09	0,23	0,34	-	0,06	0,68	
Ὀρμητικοί	0,36	0,21	0,09	0,18	0,15	0,03	0,06	0,03		0,03	-	0,03	-	-	-	-	0,03	
Ἄθροισμα	18,25	10,47	5,87	9,29	10,10	23,56	9,87	12,04		12,30	6,90	2,08	8,67	9,10	8,90	11,59	39,15	
	ΜΑΡΤΙΟΣ									ΟΚΤΩΒΡΙΟΣ								
Ἀοδενεῖς	3,14	1,68	0,88	4,22	6,59	9,57	5,71	9,98	0,85	2,97	2,35	1,61	5,97	5,66	11,52	7,73	12,00	1,05
Μέτριοι	7,53	3,36	2,65	5,07	8,16	8,33	4,85	8,71		5,58	4,02	2,89	4,73	5,80	8,35	5,07	7,98	
Ἰσχυροί	2,40	1,13	0,61	1,02	1,96	0,63	0,33	0,28		1,10	0,76	0,51	0,96	0,71	0,20	0,14	0,23	
Ὀρμητικοί	0,11	0,06	0,11	0,03	0,06	-	-	-		-	-	0,03	0,03	0,03	-	-	-	
Ἄθροισμα	13,18	6,23	4,25	10,34	16,77	18,53	10,89	18,97		9,65	7,13	5,04	11,69	12,20	20,07	12,94	20,21	
	ΑΠΡΙΛΙΟΣ									ΝΟΕΜΒΡΙΟΣ								
Ἀοδενεῖς	3,29	1,61	0,94	4,46	10,82	7,01	5,81	11,53	1,70	2,79	2,88	1,05	4,50	5,47	13,39	5,64	6,87	1,23
Μέτριοι	4,37	2,35	1,26	4,11	12,35	6,37	5,87	12,56		7,52	5,70	3,79	5,93	5,44	9,69	3,28	5,64	
Ἰσχυροί	0,73	0,32	0,15	0,50	0,97	0,18	0,18	0,26		2,68	1,57	0,94	1,14	1,28	0,63	0,11	0,26	
Ὀρμητικοί	0,03	0,03	0,03	0,06	0,18	-	-	-		0,14	0,09	0,09	0,06	0,11	0,03	0,03	0,06	
Ἄθροισμα	8,42	4,31	2,38	9,13	24,32	13,56	11,86	24,35		13,13	10,24	5,87	11,63	12,30	23,74	9,06	12,83	
	ΜΑΤΟΣ									ΔΕΚΕΜΒΡΙΟΣ								
Ἀοδενεῖς	2,32	2,12	1,06	4,74	8,13	5,05	7,53	18,94	1,21	2,49	1,75	1,44	4,41	3,76	14,63	4,19	4,75	0,57
Μέτριοι	2,48	1,10	0,80	2,89	7,55	4,41	6,95	20,02		9,08	4,47	4,78	4,90	4,67	13,50	4,24	4,36	
Ἰσχυροί	0,30	0,08	0,03	0,30	0,94	0,14	0,06	0,72		3,82	1,75	1,50	1,53	1,44	0,65	0,14	0,45	
Ὀρμητικοί	-	-	-	0,03	0,06	-	0,03	-		0,20	0,17	0,06	0,08	0,08	0,06	0,03	0,03	
Ἄθροισμα	5,10	3,30	1,91	7,96	16,68	9,60	14,57	39,68		15,59	8,14	7,78	10,92	9,95	28,84	8,60	9,59	
	ΙΟΥΝΙΟΣ									ΕΤΟΣ								
Ἀοδενεῖς	2,54	2,48	1,74	4,53	4,76	4,16	7,98	24,89	1,11	3,10	2,69	1,26	4,74	5,29	7,92	6,25	12,61	1,08
Μέτριοι	2,45	0,88	0,48	2,22	4,08	2,79	6,96	24,97		6,13	3,31	2,21	3,70	5,27	6,77	5,19	12,27	
Ἰσχυροί	0,17	0,03	-	0,20	0,14	-	0,09	0,34		1,97	0,89	0,54	0,71	0,82	0,41	0,20	4,19	
Ὀρμητικοί	-	-	-	-	-	-	-	-		0,13	0,05	0,04	0,04	0,07	0,02	0,02	0,11	
Ἄθροισμα	5,16	3,39	2,22	6,95	8,98	6,95	15,03	50,20		11,33	6,94	4,05	9,19	11,45	15,12	11,66	29,18	
	ΙΟΥΛΙΟΣ																	
Ἀοδενεῖς	2,74	4,78	1,41	5,47	2,87	0,86	6,58	29,16	1,22									
Μέτριοι	2,74	1,11	0,30	1,13	1,33	0,58	5,50	30,32										
Ἰσχυροί	0,30	0,06	0,03	0,03	0,11	-	0,39	0,94										
Ὀρμητικοί	-	-	-	-	-	-	-	0,05										
Ἄθροισμα	5,78	5,95	1,74	6,63	4,31	1,44	12,47	60,48										

ΠΙΝΑΞ 15

ΖΑΚΥΝΘΟΣ

(1900-40)

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Table 6

ΚΑΤΗΓΟΡΙΑΙ ΑΝΕΜΩΝ	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %	N %	NE %	E %	SE %	S %	SW %	W %	NW %	C %
	Ι Α Ν Ο Υ Α Ρ Ι Ο Σ									Α Υ Γ Ο Υ Σ Τ Ο Σ								
Ἀσθενεῖς	2,31	9,14	2,42	10,05	3,06	1,83	1,94	3,98	39,35	1,18	1,18	1,21	2,20	0,40	0,11	8,07	24,62	34,03
Μέτριοι	0,70	4,87	1,59	5,46	2,90	2,74	1,42	2,04		0,16	0,11	0,19	0,75	0,46	0,16	6,01	17,07	
Ἰσχυροί	0,11	0,86	0,32	0,92	0,48	0,59	0,05	0,70		0,03	-	-	-	-	-	0,67	0,43	
Ὀρμητικοί	-	-	0,05	0,05	-	-	-	0,05		-	-	-	-	-	-	-	0,05	
Ἄθροισμα	3,12	14,87	4,38	16,48	6,44	5,16	3,41	6,77		1,37	1,29	1,40	2,95	0,86	0,27	15,65	42,17	
	Φ Ε Β Ρ Ο Υ Α Ρ Ι Ο Σ									Σ Ε Π Τ Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	1,74	6,63	2,01	9,55	3,54	2,62	2,54	4,33	36,85	0,83	2,39	1,75	2,67	1,69	0,47	5,39	21,58	41,22
Μέτριοι	1,00	3,72	1,30	6,04	4,42	3,69	2,27	2,62		0,22	1,61	0,39	1,44	0,78	0,28	4,64	11,97	
Ἰσχυροί	0,09	0,38	0,27	0,97	1,06	0,59	0,35	0,47		-	-	-	0,06	0,06	0,06	0,39	0,11	
Ὀρμητικοί	-	0,18	-	0,12	-	-	0,12	0,53		-	-	-	-	-	-	-	-	
Ἄθροισμα	2,83	10,91	3,58	16,68	9,02	6,90	5,28	7,95		1,05	4,00	2,14	4,17	2,53	0,81	10,42	33,66	
	Μ Α Ρ Τ Ι Ο Σ									Ο Κ Τ Ω Β Ρ Ι Ο Σ								
Ἀσθενεῖς	1,37	4,84	3,20	8,28	2,61	1,18	2,88	8,76	36,94	1,08	4,19	3,40	9,68	3,17	1,41	3,06	9,45	44,71
Μέτριοι	0,75	2,61	1,69	6,18	4,30	1,40	2,39	6,69		0,74	3,17	1,39	3,25	2,86	0,74	2,09	4,44	
Ἰσχυροί	0,13	0,54	0,22	0,48	1,13	0,22	0,16	0,78		0,06	0,11	0,17	0,06	0,29	-	0,11	0,23	
Ὀρμητικοί	-	-	0,11	-	0,16	-	-	-		-	-	0,17	-	-	-	-	-	
Ἄθροισμα	2,25	7,99	5,22	14,94	8,20	2,80	5,43	16,23		1,88	7,47	5,13	12,99	6,32	2,15	5,26	14,12	
	Α Π Ρ Ι Α Λ Ι Ο Σ									Ν Ο Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	0,81	1,36	2,64	5,52	3,09	1,31	6,09	14,09	35,24	0,78	4,36	2,25	11,56	3,39	1,83	2,72	4,17	45,61
Μέτριοι	0,47	0,86	1,14	4,81	4,31	0,89	4,75	10,23		0,78	1,67	1,00	6,64	5,31	1,44	1,44	2,33	
Ἰσχυροί	-	-	0,11	0,28	0,50	0,22	0,22	0,44		-	0,22	0,17	0,50	0,56	-	0,28	0,50	
Ὀρμητικοί	-	-	0,06	0,06	0,06	-	-	0,06		-	0,22	-	0,06	0,17	-	-	0,06	
Ἄθροισμα	1,28	2,22	3,95	11,07	7,96	2,42	11,06	24,82		1,56	6,47	3,42	18,76	9,43	3,27	4,44	7,06	
	Μ Α Ϊ Ο Σ									Δ Ε Κ Ε Μ Β Ρ Ι Ο Σ								
Ἀσθενεῖς	0,65	2,02	2,39	4,62	2,90	1,02	5,27	23,87	31,29	1,10	6,88	2,45	11,29	3,25	2,20	0,86	3,63	44,09
Μέτριοι	0,30	0,22	0,43	2,63	2,77	0,91	5,27	12,37		0,48	3,74	0,91	5,97	4,35	2,80	0,91	1,69	
Ἰσχυροί	-	-	-	0,16	0,27	0,05	0,27	0,27		0,11	0,48	0,11	1,24	0,38	0,43	0,11	0,22	
Ὀρμητικοί	-	-	-	0,05	-	-	-	-		-	0,05	0,05	-	0,16	0,05	-	-	
Ἄθροισμα	0,95	2,24	2,82	7,46	5,94	1,98	10,81	36,51		1,69	11,15	3,52	18,50	8,14	5,48	1,88	5,54	
	Ι Ο Υ Ν Ι Ο Σ									Ε Τ Ο Σ								
Ἀσθενεῖς	1,28	2,08	0,89	3,72	1,50	0,44	6,61	27,97	27,33	1,25	3,90	2,14	6,76	2,42	1,21	4,21	14,71	36,99
Μέτριοι	0,28	0,17	0,19	1,69	0,47	0,53	8,03	15,25		0,49	1,90	0,87	3,79	2,76	1,29	4,00	9,00	
Ἰσχυροί	-	-	-	0,08	0,19	0,06	0,83	0,39		0,05	0,22	0,12	0,39	0,40	0,18	0,34	0,40	
Ὀρμητικοί	-	-	-	-	-	-	-	-		-	0,04	0,04	0,03	0,05	0,01	0,01	0,06	
Ἄθροισμα	1,56	2,25	1,08	5,49	2,16	1,03	15,47	43,61		1,79	6,06	3,17	10,97	5,63	2,69	8,56	24,17	
	Ι Ο Υ Λ Ι Ο Σ																	
Ἀσθενεῖς	1,83	1,77	1,08	1,88	0,59	0,16	4,97	29,17	27,63									
Μέτριοι	0,05	0,22	0,27	0,81	0,35	0,05	7,72	20,54										
Ἰσχυροί	0,03	-	-	-	-	-	0,59	0,30										
Ὀρμητικοί	-	-	-	-	-	-	-	-										
Ἄθροισμα	1,91	1,99	1,35	2,69	0,94	0,21	13,28	50,01										

ΠΙΝΑΞ 6

ΛΕΥΚΑΣ

(1950 - 71)

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PLACE—ATHENS (Observatory). LAT. 37° 58′ N., LONG. 23° 43′ E. *Height above Mean Sea Level, 351 feet* (107m0).
Climatic Table compiled from 8 to 40 Years' Observations, 1861 to 1962.

Month	Pressure at M.S.L. Mean	Air temperatures: Mean daily max.	Mean daily min.	Mean highest in each month	Mean lowest in each month	Relative humidity: 0800	1400	Mean Cloud Amount: 0800	1400	Precipitation: Average fall	No. of days with trace or more	Wind direction 0800: Percentage of observations from N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm	Wind direction 1400: Percentage of observations from N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm	Mean wind speed: 0800	1400	Percentage frequency with gales force 7 or more	No. of days with visibility 1100yds. or less
	mb.	°C.	°C.	°C.	°C.	%	%	OKTAS		mm.																					Knots			
January	1016	13	6	18	1	78	62	5	6	60	14	16	29	5	1	4	5	1	1	38	15	22	2	7	17	18	5	5	9	5	7	1	1
February	1015	14	7	19	1	73	57	5	5	39	12	20	24	5	2	7	2	2	3	35	20	20	2	4	23	15	4	4	8	5	8	1	1
March	1016	15	8	22	3	71	54	5	5	37	11	14	20	2	4	2	6	2	3	47	10	17	3	7	19	24	9	6	5	4	8	1	+
April	1014	20	11	26	6	64	47	4	5	20	9	6	12	3	2	10	8	2	4	53	5	9	1	9	35	26	5	5	5	3	7	+	+
May	1013	25	16	31	11	60	46	4	5	23	8	7	10	2	3	13	14	3	2	46	4	17	4	6	25	33	5	1	5	4	7	+	0
June	1013	30	20	36	16	50	39	2	3	14	5	7	22	1	4	9	3	6	2	47	0	23	4	2	20	31	7	5	2	5	8	0	0
July	1011	33	23	39	19	47	34	1	2	5	2	15	18	1	2	2	7	4	5	46	16	27	4	3	25	14	5	5	1	4	7	+	0
August	1012	33	23	38	19	47	34	1	1	6	3	16	19	1	1	1	6	2	10	45	14	22	2	2	12	20	3	12	3	4	7	+	0
September	1015	29	19	34	15	59	43	2	3	16	4	9	27	3	4	2	4	1	1	49	13	29	1	4	12	25	4	7	3	4	8	+	0
October	1017	24	15	30	11	71	53	4	5	50	9	10	18	5	2	6	4	3	1	51	9	18	3	2	25	28	4	8	3	3	7	+	0
November	1017	19	12	24	6	78	61	5	6	57	12	13	26	5	4	6	4	1	2	39	18	16	1	4	17	11	8	5	20	5	6	+	+
December	1017	15	8	20	2	78	63	5	5	71	14	11	23	4	7	7	3	0	4	41	16	20	6	5	22	15	3	2	11	4	7	+	+
Means	1015	23	14	40*	−1**	65	49	4	4	—	—	12	21	3	3	6	5	2	3	45	12	20	3	5	21	23	5	5	6	4	7	—	—
Totals	—	—	—	—	—	—	—	—	—	399	103	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extreme Values	—	—	—	43†	−6††	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2
No. of years' observations	30	30				11–12				40	93	8																				12	22

*Mean of highest each year.
**Mean of lowest each year.

†Highest recorded temperature.
††Lowest recorded temperature.

Standard of time: 30° E.
+ Indicates less than 0·5.

Authorities:—Athens Nat. Obs., Mét. Inst., Climat. Bulletin.
Climat. Normals WMO/OMM, No. 117, TP.52.
London, Met. Office, Weather in the Mediterranean.

METEOROLOGICAL OFFICE.

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Table 8

Monthly frequency of wind directions and Force (Beaufort Scale) expressed in percent. Hellenikon Station.
Period: 1949-1968. From daily observation at 0800, 1400 and 2000.

	N	NE	E	SE	S	SW	W	NW	N	NE	E	SE	S	SW	W	NW
				JANUARY								FEBRUARY				
F 1-2	10.0	7.5	4.5	3.2	2.8	2.4	2.6	3.5	9.1	7.5	4.6	3.3	3.4	3.7	3.6	2.6
F 3-5	14.3	7.9	2.0	2.9	5.6	4.1	2.4	5.7	11.0	8.3	2.4	5.0	6.9	2.3	3.8	5.1
F 6-7	0.7	0.8	0.2	0.3	0.7	0.3	0.3	0.4	0.7	0.9	-	0.1	0.3	0.3	0.4	0.4
F 8+	0.2	0.1	-	-	0.1	0.1	-	-	0.1	0.1	-	-	-	-	-	-
Calms:	14.3								Calms:	14.2						
				MARCH								APRIL				
F 1-2	7.3	4.6	3.3	3.8	5.1	3.8	3.6	2.7	6.3	3.3	1.4	3.1	7.5	4.9	3.7	3.8
F 3-5	13.0	9.8	2.4	4.3	6.8	2.7	3.3	4.3	8.5	6.3	2.4	4.6	9.3	3.9	3.9	4.9
F 6-7	0.9	1.0	0.1	0.2	0.1	0.1	0.2	0.4	0.3	0.3	0.1	0.1	0.3	-	0.1	0.2
F 8+	-	0.2	-	-	-	-	-	0.1	0.1	-	0.1	-	-	-	-	-
Calms:	16.0								Calms:	20.7						
				MAY								JUNE				
F 1-2	5.0	1.7	0.8	3.0	9.3	6.3	4.9	4.8	4.8	1.8	1.1	1.6	6.8	5.3	6.9	6.0
F 3-5	4.8	3.9	2.1	3.4	13.1	5.9	3.5	2.2	9.3	9.3	1.9	2.6	12.5	6.1	4.3	4.0
F 6-7	0.5	0.4	0.1	-	-	-	-	0.1	0.2	0.4	0.1	-	0.1	0.1	0.1	0.2
F 8+	0.1	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-
Calms:	21.1								Calms:	14.4						
				JULY								AUGUST				
F 1-2	5.9	1.7	0.8	1.3	6.0	4.6	4.7	5.2	7.1	2.5	1.2	1.7	4.1	5.1	4.1	5.2
F 3-5	15.9	14.8	1.6	1.7	8.0	6.0	4.0	3.7	17.0	16.9	2.1	2.1	6.2	4.2	3.3	3.3
F 6-7	1.5	1.6	-	-	-	-	0.1	0.1	1.4	1.3	-	-	-	-	0.1	0.1
F 8+	0.1	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calms:	10.3								Calms:	11.0						
				SEPTEMBER								OCTOBER				
F 1-2	11.9	4.6	1.8	2.8	5.1	4.8	3.4	3.4	10.3	6.9	4.0	3.8	3.8	4.4	3.1	2.5
F 3-5	14.7	13.5	2.1	2.0	4.6	4.1	2.6	2.4	13.6	12.6	1.6	3.3	5.3	2.4	1.9	2.4
F 6-7	0.6	0.5	-	-	-	-	-	0.1	0.4	0.6	-	0.2	-	-	-	0.1
F 8+	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-
Calms:	15.1								Calms:	16.7						
				NOVEMBER								DECEMBER				
F 1-2	9.6	8.7	6.2	3.4	3.4	3.2	3.7	3.4	8.8	8.2	6.2	3.2	2.5	2.0	3.3	3.0
F 3-5	8.7	6.6	2.9	4.6	6.6	2.4	2.6	3.5	12.4	9.6	2.2	4.7	8.8	4.2	2.7	3.7
F 6-7	0.3	0.6	0.1	0.4	0.5	0.1	0.1	0.1	0.6	0.7	0.1	0.1	0.4	0.3	0.1	0.2
F 8+	-	-	-	-	-	-	0.1	0.1	-	-	-	-	-	-	-	-
Calms:	18.1								Calms:	14.0						

Table 1 Correlations

Wind		E Ionian/ W Aegean			Zakynthos			Leukas			Athens			Overall		
		G	F	P	G	F	P	G	F	P	G	F	P	G	F	P
NW,N, NE		X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
WNW, NW,N, NE		X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
N,S		X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
E		*X	-	-	-	-	X	X	-	-	X	-	-	X	-	-
SE		X	-	-	-	-	X	X	-	-	-	X	-	-	X	-
S		*X	-	-	X	-	-	X	-	-	-	-	X	X	-	-
SE,S	a)	*X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
SW	b)	*X	-	-	X	-	-	X	-	-	-	X	-	X	-	-
SW		-	-	X	-	X	-	-	-	X	-	X	-	X	-	-
W	a)	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
	b)	X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
all winds		X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
Ete-sians		X	-	-	X	-	-	X	-	-	X	-	-	X	-	-
Gales	a)	X	-	-	-	-	X	-	X	-	-	-	X	-	-	X
	b)	-	-	X	X	-	-	-	X	-	X	-	-	X	-	-
Calms		X	-	-	-	-	X	-	-	X	-	-	X	-	-	X

*The data available apply only to the E Ionian.

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Interpretations of Table I

The above table shows the correlations arrived at in the various sections of Table 1. "G" denotes a "good" correlation, "F" a "fair" one and "P" a "poor" correlation. Expressed in percentages, the data are as follows:

E Ionian/W Aegean Sea Area: G = 88%; P = 12%
Zakynthos: G = 71%; F = 5%; P = 24%
Leukas: G = 76%; F = 12%; P = 12%
Athens: G = 65%; F = 17.5%; P = 17.5%
Overall: G = 76%; F = 6%; P = 18%

In general, the agreement between the modern and ancient data is striking. As expected, the highest percentage of agreement comes from averaged data and supports the view that Aristotle and Theophrastos assimilated observations from many different localities.

The poor correlation of the ancient and modern observations concerning calms is due possibly to my interpretation of Aristotle's phrase μάλιστα γίγνεται νηνεμία, as "the greatest frequency of calms occurs" in late June and July. If Aristotle intended to imply that generally calm, settled conditions prevailed during this period, his observation basically holds true today.[17] This much can be seen from the number of calms experienced on the average in the Ionian Sea. During periods of settled and calm weather, local, thermally generated winds can be felt more easily, and this is why no periods of calm are recorded at the shore stations.[18]

It is not easy to explain the poor correlations for the SW winds and gales, because they may be due to a number of unrelated factors such as the effects of local topography, inadequacies of our modern

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data to assess accurately the ancient observation, corruptions or misstatements in the texts of the two authors cited, or legitimate, slight changes in the wind patterns since antiquity. Nevertheless, it should be noted that the statements concerning the major winds from the north, south, east and west consistently receive a good or fair rating.

The conclusion is unavoidable, that the ancient winds blew at essentially the same times of the year and from the same general directions as they do today. We can now use the full records of local wind data at our disposal with the reasonable assurance that they generally represent ancient conditions--at the very least, the conditions of the fourth and third centuries along the western coast of Akarnania.[19]

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General Weather and Local Winds

Now that we can be fairly certain that modern wind statistics are a valid source of information concerning ancient navigation, an examination of the wind and weather which affect the western Akarnanian littoral is in order. I believe it best to proceed from the general to the specific, so we must first consider the overall annual weather patterns and then consider the local effects.

The general weather pattern of Greece is determined by pressure systems which annually fluctuate with the migration of the sun.[20] The prevailing winds are determined by a large scale flow of air from northern high pressure areas to southern lows; cold winds sink off the mountain chains of the Alps and Balkans and flow toward the hot desert regions of nothern Africa. This trend can be statistically followed from spring to autumn.[21]

In March (see Fig. 41), the normal trend is for an area of low pressure to settle over Italy and the Adriatic, a condition which frequently brings bora or northerly gales in the Adriatic. Depressions (low pressure areas) track from the northwest over Epiros from a breeding ground in central Italy; they also track to the northeast over the southern Peloponnesos from Libya. In Akarnania, the weather is generally poor with short-lived fair periods in between. By April (see Fig. 42), a center of high pressure tends to form south of Greece as the low tendency over the Adriatic decreases. Coupled with the decreasing Asian continental high (see below), this condition causes southeast to south winds in the extreme eastern Mediterranean, but does

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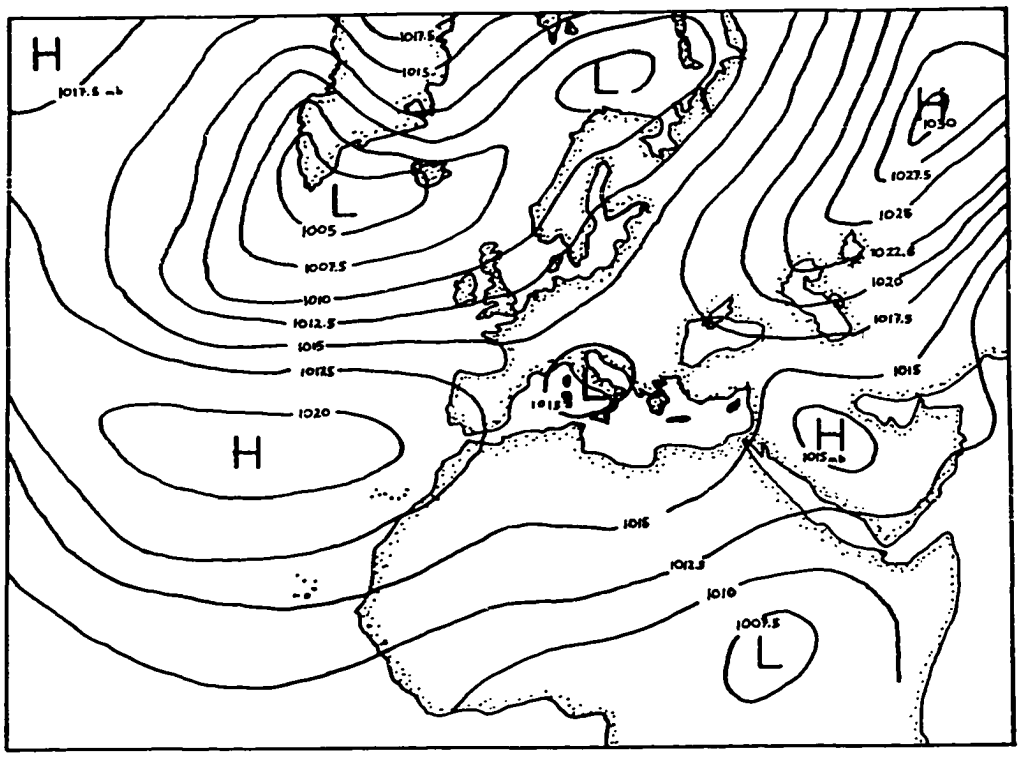

Fig. 41

not affect the Ionian Sea to any noticeable degree. Here, the depression tracks from Libya and central Italy are shifting northward. The Italian depressions now form in the Adriatic and track over Yugoslavia, and the Libyan ones are now shifting out of the Ionian Sea area. Periods of good weather will be longer-lived in Akarnania as the number of depressions tracking to the north and south decreases.[22]

By May, the first summer month in Euktemon's calendar,[23] "the Mediterranean shows the rapid onset of its summer phase."[24] The track of depressions coming from Libya has fully shifted out of the Ionian area, and it now crosses Italy. The depression center in the Adriatic has disappeared as well. Days of good, settled fair weather are now the

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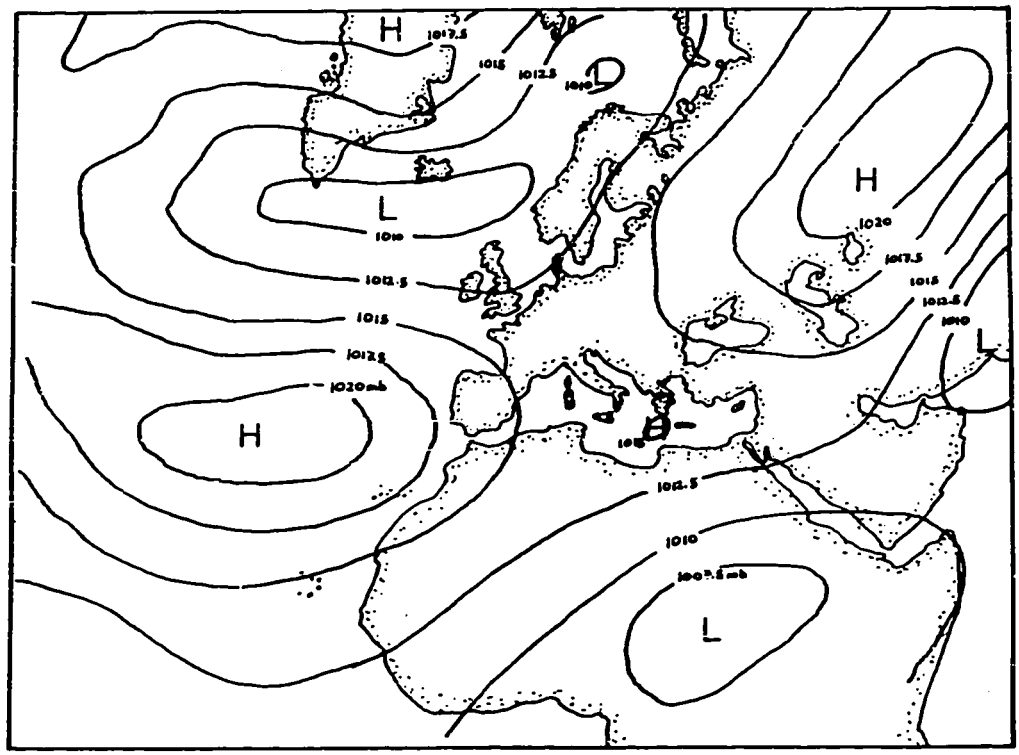

Fig. 42

norm. On a larger scale, a low pressure area is beginning to form over northern India - the so-called "monsoonal low." At the same time, a high pressure area is extending eastward over the Mediterranean from the Azores. This situation causes a tendency for winds to blow from northern points to southern points. In June, areas of equal pressure tend to align themselves north-south, a fact which furthers the tendency for northerly or northwesterly winds. All the while, the area around India is becoming more and more heated, causing the "low" to intensify and "pull" air toward itself from the expanding Azores high. In July, the full effect of the monsoonal low is felt in the steady and regular etesian winds, a large scale flow of air over the eastern

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Mediterranean from north and northwest points toward south and southeast points.[25] This condition continues through August (see Fig. 43) and into the early days of September. By this time, the pressure gradients slacken, that is, the relative difference between high and low pressure areas decreases. When these gradients slacken, the tendency for a unidirectional flow from north to south also decreases, so that winds are more likely to come from many directions rather than primarily from one or two.

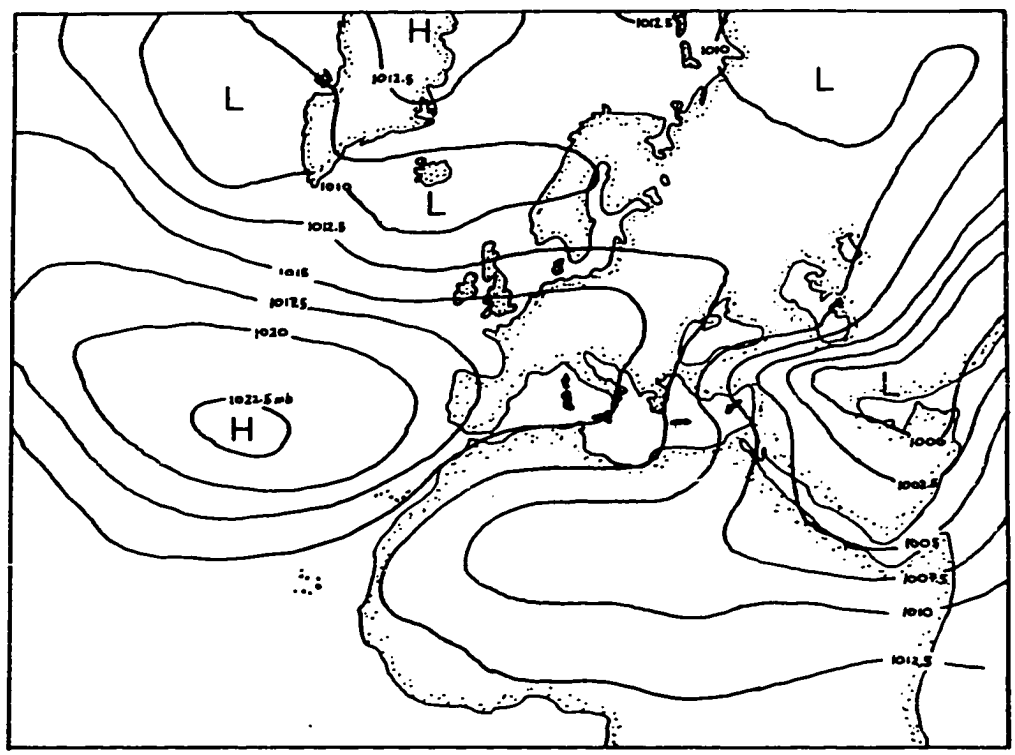

Fig. 43

By October, the winter patterns are becoming established as the summer patterns disappear. The Russian steppes grow colder and help

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form what is called the "Asian continental high," while the Indian monsoonal low gradually disappears. The overall result is a great area of slack pressure over the whole Mediterranean region. It is during this month that the "autumn break" arrives "when the hot summer weather is swept away eastward ahead of advancing cold air from the north."[26] A low pressure center becomes established in the Gulf of Genoa; the Adriatic, Ionian and Aegean now have a tendency to southeast winds, and gale frequencies increase toward their winter values.

According to Euktemon, winter began on 9 November, a date which coincides well with modern weather trends.[27] For, although the autumn break arrives in October, it is not until November that the number of depressions outnumbers the number of highs tracking over Greece.[28] By the end of the month, winter weather trends are fully established (see Fig. 44), one excellent reason why November was, and is traditionally the last month of the sailing season.[29] During the summer, storms or depressions rarely track over Italy and Greece because of the large scale pressure systems described above. But during the winter, these large scale systems are absent and depressions tend to move from west to east over Greece from the Bay of Lyons and the Gulf of Genoa. Gale frequencies increase and better weather is often restricted to periods of a few days.

In December (see Fig. 45), there is a great increase in the frequency of low pressure areas and this brings more rain and strong winds to the littoral of western Greece. In January and February, the temperature drops as colder air arrives from the growing high pressure area

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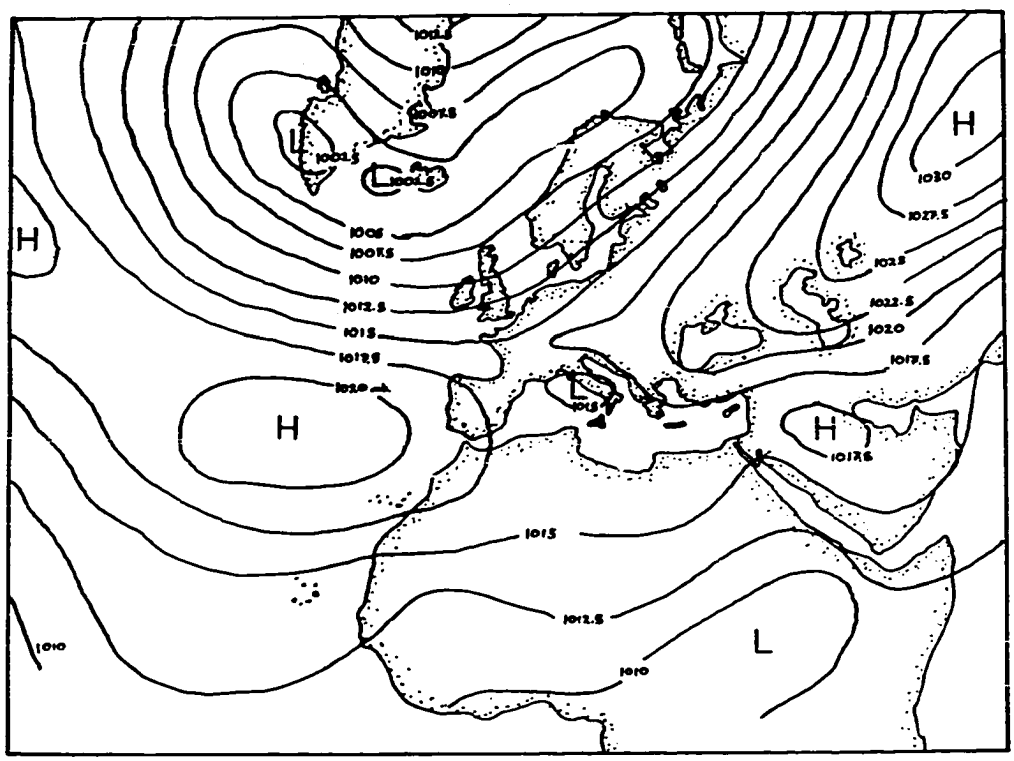

Fig. 44

centered to the northeast--the Asian continental high. It is not until March that the number of high pressure areas (previously heavily outnumbered by the lows) begins to noticeably increase, a fact which has made March the traditional "first month" of the sailing season.[30]

The general picture concerning western Akarnania can be summarized as follows. The climate is in the warm-temperate maritime category, characterized by relatively mild winters, short and heavy rainfalls and relatively little cloud cover compared with other areas of Greece.[31] Even so, the quality of the weather alternates annually between the two extremes of winter and summer. Winter weather is wet and less stable

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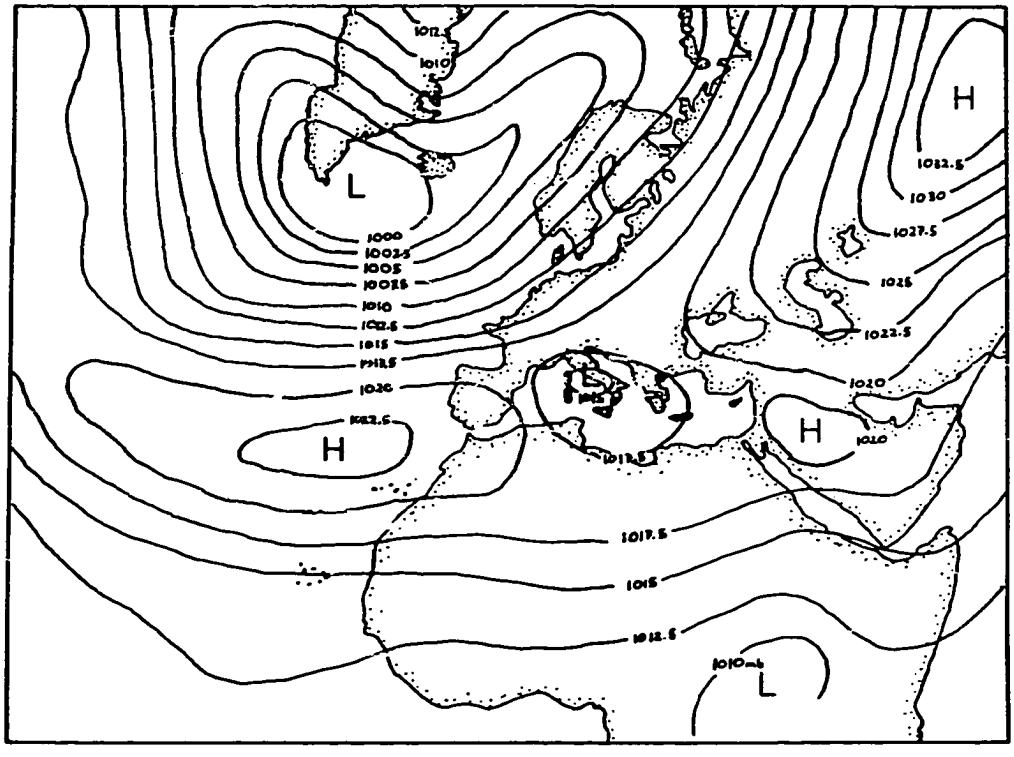

Fig. 45

than summer weather. Rain occurs most during the months of December, January and November.[32] The winds of this season come largely from the northeast and southeast and this renders most of the Akarnanian harbors exposed and unsafe at times; those in the Ambrakian Gulf are exposed during northeasters, and those on the west coast during southeasters. This last remark may seem at first glance to be illogical, but it should be remembered that the bays on the west coast open toward the southwest and southeasterly winds are funneled on-shore, up into the valleys by the mountains. Gale frequencies are also at their highest values from November to March. On these grounds alone, it is easy to understand why intensive maritime activity came to a halt during the

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winter months in antiquity. An occasional voyage was made, especially if it only required a few hours at sea on a sunny winter day. Certainly, communications were maintained with the offshore islands as well as with the cities up and down the coast.[33] But in general, it was not until March, when winter gave way to spring, that the sailing season traditionally began. And it was not until the end of May, when the previously high gale frequencies had dropped to nothing and the summer weather regime was fully established, that it was deemed "safe" to entrust one's fortunes to Poseidon.[34]

Local Effects: Thermally Generated Winds

The next logical step is to examine the winds which prevail locally along the western Akarnanian coast, particularly during the months of the sailing season. When the mean monthly frequency values of the winds from Leukas are graphed (see Fig. 46), a striking picture emerges: the northwest wind is dominant from March to late October. During June, July and August, this wind blows over 50% of the time. As explained above, the northwest wind is set in motion by the development of the monsoonal low, and the blowing of the etesians partly explains the high values in June, July and August. Yet, there is another factor which causes winds to blow from directions other than the northwest which asserts itself during the calm, sunny days of late spring and summer; this is the so-called thermally generated wind effect.[35]

Thermally generated winds are very local winds which blow because of local small scale differences in pressure. The basic theory is quite

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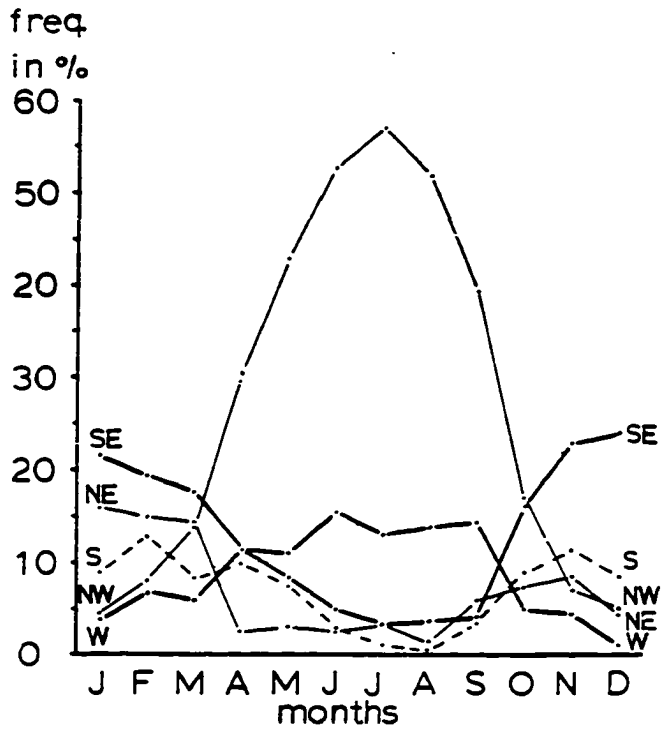

Fig. 46

simple. The sun shines down on land and sea alike, but of the two, the land surface heats up more quickly. This causes the air over the land to become warm; its rising entails a lazy exodus of upper air layers toward the sea and this loss causes pressures to fall over the land. The additional air which arrives over the sea causes pressures there to rise. As stated earlier, winds tend to flow from high pressure areas to low pressure areas, and on the surface, a sea breeze is felt as air rolls in to "fill up" the low pressure area. A thermally induced sea breeze will blow on any day there is uninterrupted sun and light winds, i.e., the sea breeze effect acts throughout the sailing season.[36] On a

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west facing coast, sea breezes will be generated a few hours later than on an east facing coast, and an hour or so after a south facing coast.[37] As westerly winds are normal along the western Akarnanian coast, the sea breeze usually aids them. The winds will usually begin to blow sometime around noon. Much depends on the gradient wind (i.e., the wind blowing at about 1500 meters, unaffected by surface topography); if the sea breeze has to oppose the gradient wind, the onset may be delayed. During the early afternoon, the wind speed rises and the direction tends to veer from southwest to west, or from west to northwest as the afternoon wears on.[38] The steep mountainous shoreline of western Akarnania tends to funnel the sea breezes up into the bays; thus, the sea breeze is initially felt as a southwest wind at Astakos, a west-southwest wind at Agios Pandeleimona, a confused south to southwest wind at Mytikas, a south wind at modern Palairos, a confused western quadrant wind at Leukas town, and a west wind at Preveza. The wind is blowing on-shore, but it is funneled and bent in markedly different directions (see Fig. 48).

The sea breeze continues blowing till sunset, when the pressure gradient slacks off and then a general calm prevails.[39] During the night, two different tendencies help produce light and variable off-shore winds. The first is the opposite of the sea breeze effect and is appropriately called the land breeze. At night, the surface of the land cools quickly due to radiation, and the sea becomes relatively warmer than the land. When evening winds are light or calm (as is the case in Akarnania during the late spring, summer and early autumn) the

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gradients allow for a weak off-shore drift of air. The velocity is rarely more than F 1-2,[40] but can be a full F 2 where the valleys funnel the wind. They can often be aided by another thermal effect, the katabatic wind, a wind which sinks downward off hills in fine settled weather.[41] Here, the slopes are cooler than the plain, the valleys or the sea on steep-to coasts. Thus, the cooler air rolls downhill and is felt as wind with speeds between F 1 and F 2 (these can also be stronger where valleys funnel the air). Land breezes and katabatic winds can blow at any time of the year, but they are more noticeable in autumn, spring and winter. This is because it is during these seasons that the greatest nighttime difference between land and sea surface temperatures occurs,[42] and when the greatest differences in temperature between land in sunlight and land in shade are generated.[43]

Since the coast of western Akarnania faces west, but its bays open toward the southwest, it displays characteristics half-way between the simple south and west facing coasts. The wind regime of a typical summer day may be described as follows:

Time	Wind Characteristics at the Coast
0600	very light off-shore movement of air, or no apparent wind (calm)
0800	tendency to off-shore drift of air, or no apparent wind
1000-1100	in sunny or bright weather, a period of wind shift and increases of air drift toward shore
1200	continuing tendency for air drift toward shore; general F 1 velocity; highest incidence of southerly winds
1400	definite sea breeze of F 2 or more is felt; tendency for southwest winds

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Time	Wind Characteristics at the Coast
1600	sea breeze is beginning to reach its maximum force; highest chance of winds from seaward; southwest to west-southwest tendency in sea breeze direction
1800	period of maximum force--often F 4; tendency for west-southwest to west winds
2000	highest chance of winds from the west to northwest; lowest chance of winds from the southeast to south; wind force begins to drop
2100-2200	period of transition from on-shore daytime wind trend to off-shore nocturnal wind trend
2400	tendency for development of off-shore nocturnal wind--often only a drift
0200-0400	period of very little wind shift

When the changes in barometric pressure at the coast are graphed, the same picture emerges (see Fig. 47). Through the night, the pressure is at its highest and a calm or soft land breeze prevails at the coast. But as the sun warms the land after dawn, the pressure drops and the sea breeze soon begins to blow. It increases in force as the day wears on and reaches its greatest velocity shortly after the lowest pressure is attained. By sunset, the pressure is rising toward its evening level and the sea breeze diminishes in force. The resultant graphed line is an undulating one with highs during the night and lows during the mid-to-late afternoon.

It should be kept in mind that the above is a generalized picture and that each bay exhibits its own local peculiarities in wind flow.[44] For example, the wind is channeled north-south through the Leukas Canal area; for a boat sailing south, the wind could veer from its prevailing

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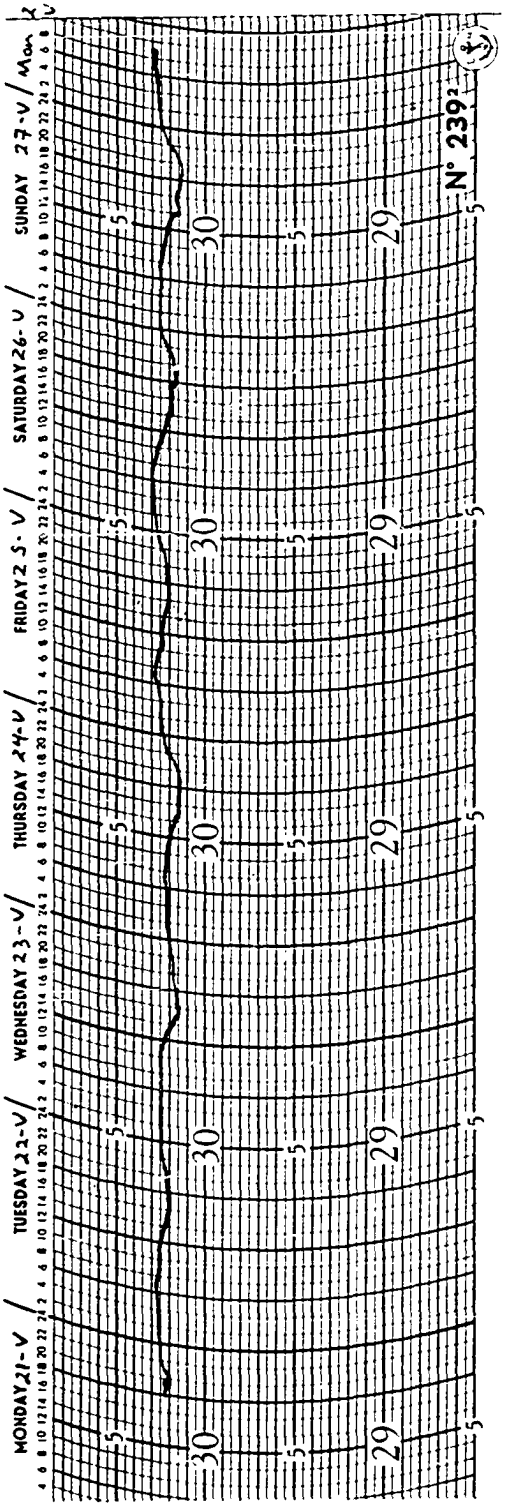

Fig. 47

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direction of west or northwest to a direction of north as it entered and sailed through the canal. Once through the canal, the vessel could experience a drastic backing of the wind to the southwest or west-southwest because the wind here blows into the valley north of Palairos Bay.

It is not difficult to see the importance of the thermally generated winds in facilitating movement up and down the Akarnanian coast. A brief perusal of the wind statistics for the E Ionian Sea would lead to the false assumption that it was almost impossible to sail from Oiniadai to Leukas because of the prevailing northwesterlies. If we accept the fact that ancient ships could point no better than about 78° into the wind (see p. 370) and we also adopt the faulty assumption that the winds utilized were largely northwesterly in direction, then the course the boat could sail would be 33° on a port tack and 237° on a starboard tack.

I have plotted a course from a point in mid-channel north of Akra Araxos (38°16' N, 21°23' E) at the entrance to the Patraic Gulf. The first tack from here (distance: 36 nm) will not clear the northern end of Zakynthos, but with one short tack (4 nm), one can tack again and pass between Kephallenia and Zakynthos (36 nm) and head out into the unobstructed northwesterly wind. It then takes at least three long tacks (total distance: 116 nm) to reach Akra Dhoukaton at the southwest corner of Leukas. From here it takes two long tacks to clear Leukas (total: 53 nm) and reach Aktion. This estimate is necessarily going to err on the low side because I have not taken into account the effects of current (fairly negligible) or leeway (the amount that the

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boat would slide sideways, and thus off a true course of 33° or 237°). I believe that the amount of leeway would have been considerable, but there is no way for one to calculate what it would have been. Using US Hydrographic Chart 54280 (Chart no. 18), I have roughly calculated that given these points, the best outside course from the entrance of the Patraic Gulf to Aktion measures almost 250 nautical miles. The best inside course, using the thermally generated winds to help "cheat" against the prevailing northwesterlies, measures about 70 nautical miles, less than one-third the distance involved in going outside Kephallenia. For this course, I have plotted a line from the previous starting point (38°16' N, 21°23' E) outside of Nisis Oxeia (38°16' N, 21°05' E; total distance: 13 nm) on the grounds that the vessel can make use of early morning land breezes and katabatics (plus a moderate eastern wind frequency at Patras during autumn mornings) to stay close to the coast. This is only an approximation as this area has become quite silted up since antiquity. From Nisis Oxeia, the vessel can catch the early southwest sea breeze flowing toward Astakos and head directly toward that bay (13 nm). Some short tacking will be required perhaps to clear Akra Tourkovigla (4-7 nm) and to enter the southwest sea breeze blowing toward Mytikas Bay (11 nm). It might be best to wait at Mytikas through the night as the sea breeze may have veered too much to the west to allow for an easy approach to Leukas. The next day the vessel could stand off from Mytikas before or at dawn making use of katabatic and land breezes (1-2 nm) and await the first puffs of the sea breeze which come sometime before noon out of the

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southwest.[45] With this wind at its heels, the vessel can make directly for Leukas town (11 nm), and with luck, could carry through the canal area without a tack. Generally speaking however, the wind is fairly unpredictable in the canal area, and very often calms prevail. For this reason, merchant ships not provided with oars were seemingly towed through this area of fluky air during the Augustan period and probably during other periods whenever the canal was functional (cf. pp. 246-47 and nn. 61 and 67). Once out of the lee of Leukas, the sea breeze will fill in from the west, allowing the boat to head without difficulty toward Aktion (8 nm).

When one plans to sail south from Kerkyra or Aktion to the entrance of the Patraic Gulf, the course is quite different. Now, the vessel can best utilize the "outside" northwesterlies and unless it wanted to put in at the city of Leukas, the best course is outside this island and inside Kephallenia and Ithaka on a bearing of approximately 120° from Akra Dhoukaton (the southwest extremity of Leukas). The winds will become fitful as the course takes the ship into the wind shadows of Kephallenia and Ithaka, but the general direction of the wind should remain westerly or northwesterly unless the vessel strays too close to the mainland and enters the sea breeze belt.[46]

From this discussion, a general observation can be extracted. In order to sail northwest, a vessel must play the thermally generated winds and sail inside Kephallenia and Leukas, keeping very close to the Akarnanian shore. When sailing south, it is best to stay outside Leukas and then come inside Kephallenia. This is exactly the picture we get

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from the two voyages made by Cicero along this coast. On his outbound trip from Italy in June 51 B.C., Cicero (Att. 5.9) decided not to undergo the outside passage around Leukas and so, went by land from Aktion: "Actio maluimus iter facere pedibus, qui incommodissime navigassemus, et Leucatam flectere molestum videbatur ...." On his return trip to Italy in September of 50 B.C.,[47] he was forced to leave Tiro, his secretary who happened to be ill, at Patras. Although Cicero continued on his journey, he wrote a number of letters to Tiro wishing him a speedy recovery; seven of these letters show his progress from Patras to Aktion. The voyage, fraught with many delays and stormy weather, was as follows: Patras to Alyzeia (3 days), Alyzeia to Leukas (1 day), Leukas to Aktion (1 day). The outbound voyage was intended to round Leukas, and the homeward one stayed close to the Akarnanian coast and utilized the canal at Leukas.

At the beginning of this discussion we set out to "appreciate the utility" of western Akarnanian harbors. When the Leukas Canal was navigable, sea captains sailing from Greece along the coast to northwest Greece, Italy and the west, kept their ships close to the Akarnanian shore. Given the nature of the sea breeze regime which blows at full strength for only a portion of the day, it is unlikely that these ships could have passed by the coast of Akarnania in one day (cf. Ps.-Skylax 34). The Akarnanian harbors then, served as convenient stopover points for ships working their way north and west. Of all these harbors, primacy of place must go to the Korinthian settlement at Leukas which was located in a most fortuitous position. Not only did the city

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overlook two agricultural plains, it was strategically placed at a critical point on this "inside" upwind route.[48] Throughout the history of Akarnania as a federated state, the navigability of the Leukas Canal and the political relationship Akarnania developed with Leukas played an important role in determining Akarnania's economic and political fortunes.

Thermally Generated Winds in Antiquity

As the factors contributing to the development of the sea breeze-land breeze system certainly existed in antiquity,[49] it should be no surprise that Theophrastos and the author of Problemata 26 should mention them. The terminology used is clear. The author of Pr. 26 poses the question (940b 16): διὰ τί αἱ τροπαὶ πνέουσιν; The answer explains what αἱ τροπαί are (940b 18-20): εἶθ' ὅταν ἀντιπέσῃ καὶ μηκέτι δύναται τὰ ἀπόγεια προάγειν διὰ τὸ μὴ ἰσχυρὰν ἔχειν τὴν ἀρχὴν τῆς κινήσεως καὶ φορᾶς, πάλιν ἀνταποδίδωσιν. αἱ τροπαί are sea breezes and τὰ ἀπόγεια is the land breeze force.[50] In fact, the next question is (940b 21): διὰ τί αἱ τροπαὶ ἐκ τῆς θαλάττης εἰσίν;

Theophrastos De Ventis 26, which seems to be the origin of this section of Pr. 26, compares the action of these winds to the alternating flow of water through narrow straits. He mentions that land breezes are weak (τῶν δ' ἀπογείων πνευμάτων ἀσθενὴς ἡ φύσις ...) and do not blow out to sea very far. They are concentrated in hollows[51] and are dispersed at sea[52] (ἐν μὲν γὰρ τοῖς κοίλοις ὁ ἀὴρ ἀθροισθήσεται προσπίπτων· ἐν δὲ τοῖς ἀναπεπταμένοις διαχεῖται). They also blow out in

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late and early seasons, i.e., winter and spring (ὁμοίως συνβαίνει δὲ καὶ κατὰ τὰς ὥρας οἷον τὸ ὀψιαίτερον ἢ πρωϊαίτερον ἐμβάλλειν αὐτάς).[53]

Theophrastos also reveals he understands that a thermal mechanism is involved. He notes that the sun can cause winds to blow, and that it can also hinder their blowing (Vent. 15: ὁ ἥλιος δοκεῖ καὶ κινεῖν ἀνατέλλων καὶ καταπαύειν τὰ πνεύματα· cf. also Vent. 16). He recognizes that calms occur most often "around dawn and around sunset" (Vent. 18: συμβαίνει δὲ καὶ τὰς καταπαύσεις γίνεσθαι τῶν πνευμάτων κατὰ λόγον· ἄρχεται μὲν γὰρ ἢ περὶ ἕω ἢ περὶ δυσμάς).[54] And he also states that the winds tend to die down at noon but then rise again in the afternoon (Vent. 31: πανταχοῦ γὰρ τῆς μεσημβρίας ἀπολήγει τὰ πνεύματα διὰ τὸν ἥλιου ἅμα δὲ τῇ δείλῃ πάλιν αἴρεται. συμβαίνει δὲ κατὰ τὸν αὐτὸν καιρὸν τήν τε τροπαίαν πρὸς ταῖς ἀπογείαις αὔραις καὶ τοὺς ἐτησίας ἐπαίρεσθαι πάλιν).[55] Lastly, he notes that the ἀπογείαι blow at dawn and occur when it is cool and during calm, fair weather (Vent. 24: ... καὶ ὅλως αἱ ἀπογείαι πνέουσιν ἕωθεν ἀπαψυχομένης τῆς ἀτμίδος διὰ τὴν ἀπόλειψιν τοῦ θερμοῦ· τὴν γὰρ αὔραν ταύτην αὐτὴν γίνεσθαι κατὰ λόγον ἐστὶ διά τε τἆλλα καὶ διὰ τὴν εὐδίαν).[56]

A comparison of Theophrastos' remarks with what has been said above concerning the sea breeze - land breeze system provides one more corroborative bit of evidence that the wind conditions in antiquity were largely the same as they are today. What is more, it allows one to feel confident that the reconstruction of the sailing route off Akarnania, presented above, is argued from principles recognized and appreciated by the ancients themselves.

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A Map Showing the Sea Breezes of the Western Akarnanian Littoral

Fig. 48 represents the local directions of the thermally generated sea breezes which blow along the western Akarnanian coast from the entrance of the Patraic Gulf to Aktion. The arrows represent the approximate directions of the flow of local wind currents when caused by thermally generated factors without any strong gradient wind (cf. pp. 404 ff.). If the gradient wind is west-northwest or northwest, the wind picture will remain about the same as is shown in Fig. 48 until the northwest wind rises above F 4-5, something which does not usually happen during the summer months. These arrows represent the directions of flow of the fully established sea breeze at about 1400 hours. On some days these local winds will veer slightly during the course of the afternoon (cf. p. 406 and n.38).

This map has resulted from observations I made from a sailboat during a two week period of perfect calm in May of 1979. They agree well with Watts' wind theory and have been corroborated by subsequent observations I made from shore of sailing craft during the late summer and autumn of 1979 and 1980.

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Fig. 48

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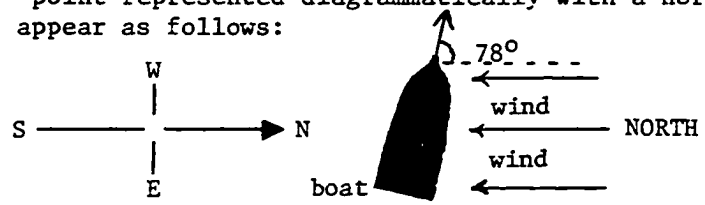
Notes to Appendix A

[1]Mohler (1948 : 46-62) has shown that Vergil's description of the Trojan fleet in the Aeneid was based on his observations of Augustan fleets; he describes Roman triremes, not Homeric ships. These triremes only rowed when absolutely necessary. (I am, of course, excluding consideration of naval battles, for which oars were the sole means of propulsion.) Oars were used for entering port, beaching and launching the ship, and to save the ship from disaster in violent storms. But unless there was an unusual need for haste, the oars usually remained shipped. Cf. Casson (1971 : 280 and n.43) for bibliography. For the merchant galley (ἱστιόφωπος, actuaria) as a ship type, see Casson (1971 : 157 ff.).

[2]But, as the name ὁλκάδες implies, some ships were towed, or could be towed when totally becalmed. Cf. Casson (1971 : 169 n.2). In this day of diesel and gasoline engines it is difficult to imagine sitting in a boat totally becalmed for any length of time. Yet, as recently as the early 19th century, ships which found themselves becalmed could do little else but wait for a breeze to spring up. HMS "TALBOT" set out from the south entrance to the Leukas Canal for Kalamos Island at 1800 hours 17 June, 1828 and did not drop anchor off Kalamos (distance: about 13 nm) until 1920 hours 19 June, 1828. The "TALBOT" was "at sea" for over two days and covered only 13 miles; see ADM 51-3503.

[3]Hull speed is essentially the top speed a hull can cut through the water without starting to plane or rise up out of the water. How it is calculated is not important for this discussion. In practical terms, it represents the fastest speed an ancient boat could sail with a favorable wind, in the case of ancient vessels, a wind which pushes the boat. How well a boat can point is determined by how close toward the origin of the wind a boat can sail and still maintain adequate forward speed. Many modern sailing yachts with deep keels, centerboards and split sail rig can easily sail at a 40° angle to the wind. This type of boat's best point is thus 40° when the wind is blowing from the north (0°).

[4]A 78° point represented diagrammatically with a north wind blowing, would appear as follows:



Cf. Casson (1971 : 273-274).

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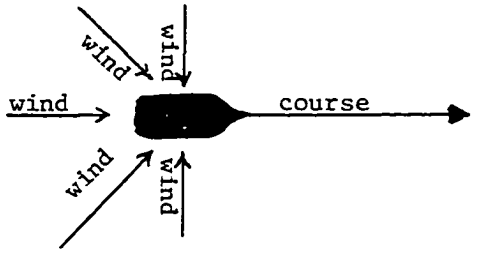
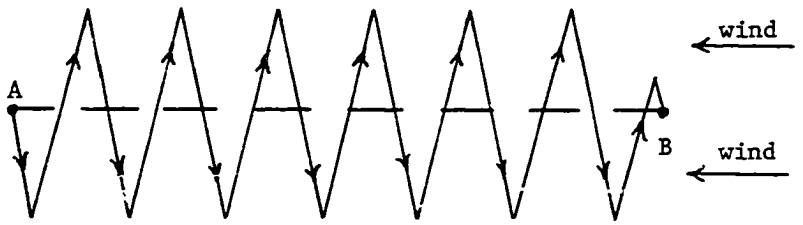
[5]See Marcus Diaconus, Vita Porph. 55; 37; see also Casson (1971 : 281 ff.), who provides a table of voyages made with unfavorable winds--the calculated average speeds are between one and three knots.

[6]I regard as favorable all winds 'beat to' or 'abaft the beam.' These winds can be represented as follows:



Thus, a favorable wind allows one to make a course which is 90° or greater when measured from the direction of the wind.

[7]When a boat is forced to sail toward an objective which is "upwind," i.e., the course to it is less than 90° from the wind's direction (the wind's point of origin), the ship must tack or zigzag its way toward the objective if the course is less (in degrees relative to the wind) than the boat can point. Our ancient vessel could sail toward an objective on a course of 78° with a north wind (although slippage to leeward would probably force the boat to tack twice). If the course was less than 78°, the ship would have to zigzag its way, slowly making a course good to windward. The following diagram represents a course upwind from A to B made by tacking.



For ancient references to this process, see Casson (1971 : 274 and nn. 15-19); cf. also Mohler's (1948 : 50) remark: "the sailor considers sailing as work, and so aims to reach his destination not in the shortest possible time, but with the least possible time spent at sea."

[8]See Great Britain (1970 : 27 and 28); Watts (1975b : 539); and Casson (1971 : 272), who relies on Hydrographic Office, Washington D.C. Publication 152, pp.32-33.

[9]See Casson (1971 : 282 n.47). I agree with Casson that Mohler's approach provides "illuminating results," but to say he provides evidence for the existence of similar winds as today's in Augustan times is circular reasoning. Mohler (1948) takes the wind similarity between ancient and modern times as given, and then argues that we can tell how well triremes handled by applying modern wind conditions to Vergil's account. His conclusion (pp.58 ff.) that triremes could point

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60° under sail is based on his "given" wind direction, the modern prevailing one, and the unverifiable assumption that the fleet cleared the harbor in one tack. Such argumentation is dangerous.

[10]Cf. Lamb (1966 : 7 and 63); also by the same author (1977 : II, 3-5 and 424-435).

[11]It should be noted that a wind is described as blowing from a point of origin. Thus, a west wind blows from the west toward the east; a northwest wind blows from the northwest toward the southeast, etc.

[12]Theophrastos gives examples from over 30 different places; for the section references see the indices in Coutant and Eichenlaub (1975 : 92-105): Aigeiai (in Makedonia), Egypt, Argos, Babylon, Boiotia, Gortyn, the Hellespont, Euboia, Thessaly, Italy, Karystos (in Euboia), Keos, Kithairon, Knidos, Crete, Libya, Lokris, Makedonia, Memphis, the Nile River, Oite, Olympos, Ossa, Plataia, the Pontos, Rhodes, Sicily, Susa, Phaistos, Chalkis, and Oropos.

[13]For an example of a sailor's proverb, see Theophr. Vent. 5: ... ὅθεν καὶ ἡ παροιμία συμβουλεύει τὰ περὶ τοὺς πλοῦς. For an example with a rural twang to it, see Theophr. Vent. 46: ὁ δὲ βορέας ὁ ἐπὶ τὸν πηλὸν τῶν νότων, ὃν φησι πάλιν ἡ παροιμία χειμῶνα ποιεῖν διὰ τὴν αὐτὴν αἰτίαν ποιεῖ. Cf. also Bökker (1958 : 2251-2252), who argues that Aristotle utilized the reports of travelers concerning the physical nature of the winds in order to fill out his regularized wind rose.

[14]Rehm (1913) examines the sources we have for reconstructing the παράπηγμα, or inscribed calendar of Euktemon, an astronomer of the fifth century who noted the various dates of the constellations' risings and settings, dates of the seasons, winds, weather, etc. For a general discussion of this type of calendar, cf. also Rehm (1949 : 1295-1366).

[15]Bökker (1958 : 2247).

[16]Cf. Boll (1911 : 31).

[17]Cf. pp. 399-400.

[18]Cf. p. 404.

[19]Since the factors which determine the overall wind regime of an area as large as the Mediterranean basin do not change quickly, it is very likely that wind conditions throughout antiquity were essentially the same as they are today. The fact that Aristotle's and Theophrastos' wind discussions were deemed valid enough to re-cast into Problemata 26 sometime during the first five or six centuries of our era lends support to this assumption (for the nature of the Problemata, a

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discussion of the manuscript tradition, and the problematical date of their compilation, see the preface to the Ruelle-Knoellinger-Klek text (Leipzig: Teubner, 1922); it is clear that much of Pr. 26 is derived from Theophr. Vent.).

[20]Throughout the following discussion it may be helpful to remember that low pressure areas are associated with warmer, or rising air, higher winds than usual, and a tendency for poor or unsettled weather. High pressure areas are associated with cooler or sinking air, and frequently denote less changeable, settled weather. In large scale terms, the air from the cooler, high pressure areas tends to flow toward the warmer, low pressure areas, thus producing wind. For a more complex exegesis of pressure systems and winds, see Watts (1975a : 18 ff.) and his bibliography on p.144 of the same work.

[21]For the appropriate data, see Watts (1975b : 504).

[22]Cf. the Depression/Anticyclone maps in Watts (1975a : 32 ff.), especially D/A map 4 on pp.34-35.

[23]Rehm (1913 : 11).

[24]Watts (1975a : 36).

[25]Local topography affects the local flow of these winds and they do not always seem to blow from the north or northwest. We have already seen that the Athenian data show a tendency for northeast or southwest winds to be felt during this period. Local conditions are always important, but on a large scale, this trend is as described in the text. Cf. Watts (1975b : 541) as well as Table 7 above for the Athenian data.

[26]Watts (1975a : 46).

[27]Rehm (1913 : 11 and 18).

[28]Compare D/A (Depression/Anticyclone) map 10 with D/A map 11 in Watts (1975a : 47-48).

[29]November and March are what might be called the outside limits of the traditional sailing season. For a discussion of the traditional sailing season in antiquity (which is essentially that of modern times) see Casson (1971 : 270-273). For the limits of our present day sailing season, see Watts (1975a : 32 and 49).

[30]See n.29.

[31]Verginis (1977 : 115-116).

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[32]The rain frequency values averaged from observations made between 1931 and 1972 at Leukas, Aktion and Astakos are as follows (the average number of rain days per month appears in the parentheses): Jan.: 15% (14.5), Feb.: 12% (12.3), Mar.: 9% (12.5), Apr.: 6% (9.5), May: 4% (6.9), June: 1% (3.0), July: - (1.7), Aug.: 1% (2.0), Sept.: 45 (6.1), Oct.: 14% (10.2), Nov.: 15% (12.4), Dec.: 18% (14.5); Total: 99% (105.6). See Verginis (1977 : 129-130).

[33]See the letters of Cicero to Tiro (Fam. 16.1 ff.) urging him to care for his health (see p. 413), but also to sail from Patras as soon as possible; these letters run through the winter of 50/49 B.C. Frequent allusions are made to selecting just the right period of weather to ensure a safe crossing. From this, it is certain there was some movement along this coast during the winter when weather permitted.

[34]Vegetius rei mil. 4.39: "a die VI. kal. Iunias usque in Arcturi ortum, id est in diem VIII. decimum kal. Octobres, secura navigatio creditur ...." He also observes later in this same passage that the outside limits of the sailing season are from 10 March to 10 November. It is also interesting to note that although Euktemon places the advent of spring on 15 February, he notes ἐπιπνεῖ βορέας ψυχρός on a number of occasions through March; this agrees well with modern conditions [see Rehm (1913 : 11, 22, 23)].

[35]My understanding of thermally generated wind theory comes almost entirely from Watts' Wind Pilot series, especially the introductory volume (1975a). Much of what I say, as in the previous section on general weather, is based on Watts' work.

[36]Cloud cover statistics are given in "oktas," with 8 oktas representing total cloud cover and 0 oktas indicating no clouds at all. The mean values for Leukas, Preveza, Aktion and Astakos, according to Verginis (1977 : 131) are as follows: Jan.: 5.1, Feb.: 4.9, Mar.: 4.5, Apr.: 4.2, May: 3.6, June: 2.2, July: 1.4, Aug.: 1.4, Sept.: 2.6, Oct.: 3.7, Nov.: 4.5, Dec.: 4.9. These values differ slightly from Verginis' because I consistently round up from .05 to .1 (e.g., 3.15= 3.2) whereas he does not. His given averages for April, May and January seem to be incorrectly computed (mine are accurate according to his primary data). Note that the months with low cloud cover (and thus, more uninterrupted sunlight) are the months with the highest incidence of northwest winds.

[37]Watts (1975a : 70 ff.).

[38]This is due to the rotation of the earth; see Watts (1975a : 71, 83, 90, 111). The term "veer" means that the wind direction changes clockwise around the compass rose, i.e., a west wind would veer toward the north. If it changes direction counterclockwise, the wind direction is said to "back." Remember, all these terms refer to the wind flow's point of origin.

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[39]For a scientific explanation of why this happens, see Carapiperis (1968). Cf. also the "calm" frequency data from Kerkyra in Ginis (1974 : Πίναξ 26) for April, July and October. Calm frequencies are highest from 2300 to 0800 hours and drop significantly after 0800. See also the data in Watts (1975b : 514-517) for Kerkyra and Patrai, which show similar increases in calm frequencies at sunset and in the early morning compared to mid-day frequencies.

[40]All wind speeds will be given according to the Beaufort Scale, ranging from 0 to 17. See Table 2 for the values and modes of estimation.

[41]Watts (1975a : 64, 120).

[42]When the sea surface temperature values for February, May, August and November [Great Britain (1970 : figs. 8-11 facing pp.32 and 33)] are compared with the average minimum air temperatures (which should roughly represent nighttime temperatures) from Leukas, Preveza and Aktion [Verginis (1977 : 118)], we find that the greatest differences occur in February and November.

Sea Temperature	Average Minimum Temp.	Maximum Diff.
February: 14°-15°	6.9°	7.1°
May: 17°-18°	14.2°	2.8°
August: 25°	21.2°	3.9°
November: 18°-19°	10.9°	7.1°

[43]This is one important factor in producing katabatic winds in the late afternoon when an east facing slope is in the shade, but the valley below is not; see Watts (1975a : 63-64).

[44]Cf. Watts (1975b : 516): "The broken southwest coastline of Greece [i.e., of mainland Greece] is one where it will be quite impossible to give anything more than guidance." In fact, all of my generalizations are based on detailed (often hourly) observations I made during the spring, summer and autumn months of 1979 and 1980.

[45]This is exactly what Cicero's captain did in September of 50 B.C.; cf. Cic. Fam. 16.3.1: "inde [i.e., Alyzeia] ante lucem proficiscentes ...." For the date of this letter, see n.47.

[46]Cf. Watts (1975a : 102); the sea breeze is a coastwise, thermally generated wind which is shallow and does not usually extend far from shore along the Akarnanian coast. The sea breeze tends to develop close to shore and then the area over which it blows expands if conditions are favorable, i.e., it advances inland and blows toward the land from an increasing distance offshore. Although it might not directly affect the area immediately around the larger offshore islands, the inshore sea breeze can cause a calming effect on the wind seaward of it (i.e., around the offshore islands), and this may allow these islands

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to develop their own local sea breezes. It is a given fact that the skipper of any vessel sailing among islands will have to "play" the effects of local breezes and distortions in the general wind flow caused by the local topography.

[47]Although the letters are dated to the first week of November 51 B.C. (cf. Fam. 16.9.1), it must be remembered that at that time, the Roman civil year had advanced about fifty days ahead of the solar year. According to calculations of Groebe (1906 : 811), Cicero left Patras on Sept. 18, arrived at Alyzeia on the 21st, left for Leukas on the 22nd and arrived there the same day. On the 23rd he moved on to Aktion where he was delayed for a day because of bad weather. He continued on his way, on the 25th, to Kerkyra.

[48]It is obvious from Thuc. 6.13.1 that there were two major routes utilized when sailing to Sicily. One was the coastal route to Kerkyra (or thereabouts) and then across the "Ionian Gulf" to Italy; from there it went along the coast to Sicily. The other route was across the "Sicilian Sea" directly from the Peloponnesos to Sicily; on this passage, see Gomme et al. (1970 : IV, 239). For a brief, but competent analysis of the difficulties encountered in trying to determine trade routes (in this case, Athenian ones of the fourth century), see Isager and Hansen (1975 : 224). They count literary sources as being of the greatest importance. According to my wind analyses, I find it very difficult to accept the routes drawn by Breglia (1966 : Tav. II and Tav. III) as concern the northwest coast of Greece. She does admit however, that the routes she draws are more concerned with "her theme" (see the reverse side of Tav. II) and that they could be made more accurate by further study. If my reconstruction of this route is correct, Leukas as a Korinthian settlement is much more important than Breglia would have us believe according to her maps.

[49]These factors are, quite simply: a coastal area with light winds, settled weather and uninterrupted sunlight. Plains backed by low hills facilitate the development of the sea breeze, but are not necessary for its formation.

[50]This translation of αἱ τροπαί is preferable to H. Rackham's "variable winds" (Loeb series) or E.S. Forster's "alternating winds" [Problemata, vol. VII of The Works of Aristotle Translated into English, ed. W.D. Ross (Oxford, 1953)]. In origin, the word stems from the idea that the sea breeze is the reversing flow of the land breeze. The wind seems to shift 180° of a 360° circle and thus "turns." The land breeze and the sea breeze when taken together as a wind system could thus be said to be "alternating winds." "Variable winds" implies fitful winds which do not blow steadily for any period of time from any one direction (see the OED, s.v. "Variable: A3b"). This is not exactly the case with these winds.

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[51]Cf. p. 407.

[52]Cf. Watts (1975a : 121): "The nocturnal wind tends to be very light in the inland zone and increases in speed to be just about a light breeze, 3-4 knots, over the coast itself. It decreases to light air in the inshore and coastwise zones and usually falls to zero before the offshore region is reached." The inshore region is 0-2 miles offshore; the coastwise area is 2-10 miles out; and the offshore region is 10 or more miles out.

[53]Cf. p. 407 and n. 42.

[54]Cf. pp. 407, 408 and n. 39.

[55]This dying of winds around noon would be difficult to interpret if it were not for the words πρὸς ταῖς ἀπογείαις αὔραις. This is clearly the period immediately before the establishment of the sea breeze which I observed as occurring between 1000 and 1200 hours (see p. 407).

[56]Cf. Watts (1975a : 64).

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APPENDIX B: CATALOGUE OF POTTERY

Introductory note: I present here a selection of the diagnostic sherds noted at the sites investigated in this work. My intention has not been to include every sherd recorded in my field notebook, but rather, only those pieces which help to establish the use period of a site heretofore unattested. In a few cases, interesting or distinctive pieces have also been presented (Nos. 43, 44, 45) in the hope that others might be able to identify them. All pieces were drawn and photographed on the site except for no.39, which is in the collection of the American School of Classical Studies at Athens.

Agios Pandeleimona

1. Fig. 49.A, Pl. 25.B. BOWL or CUP with outturned rim. Frag. of rim with portion of upper body. Pres. H .036; est. D of rim .210; Th of wall .004. Fabric: light reddish brown, med. fine clay with small voids, and small black and fine sparkling inclusions. Black glazed int. and ext. Now worn to a spotty brown. Glaze flaked off in many places. Outturned rim is articulated.

   Uncertain date. No exact parallels. Rim is similar to a number of different 6th-5th century Attic examples. Cf. Sparkes and Talcott, (1970 : nos. 389, 398, 442 and 578). NB the fabric is not Attic and the glaze is of poor quality.

2. Fig 49.B, Pl. 25.B. KYLIX. Frag. of upper stem and floor. Pres. H .025; Th of floor .006. Fabric: orange, med. fine clay with a few small voids, and small black and fine sparkling inclusions. Excellent quality, lustrous black glaze on int. and ext.

   First half of the 5th century. Cf. Sparkes and Talcott (1970 : nos. 432 and 437). My example is probably an Attic import.

3. Fig. 49.C, Pl. 25.B. PYRAMIDAL LOOM WEIGHT. Weight worn by sea action (?) on three of the four bottom corners; it exhibits a worn oval stamp on lower portion of one face, an incised cross on the top of the weight and an oval hole pierced through the weight above the stamp. H .065. Fabric: unevenly fired--75% dark gray, 25% yellow-brown gritty clay with numerous med. voids, and small white and med.-small black inclusions.

   Uncertain date. Of local manufacture (?). Cf. Davidson (1952 : pl.77, no.1203) for a Korinthian pyramidal loom weight of similar shape (1st century), but this example exhibits no stamp, nor an incised top and is twice the size of my piece.

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4. Fig. 49.D, Pl. 25.B. OPEN SHAPED VESSEL. Frag. of torus ring foot and a portion of floor. Est. D of foot .125. Fabric: orange med.-fine clay with very few small voids, and small black and fine sparkling inclusions. Good quality lustrous black glaze, slightly metallic. Resting surface of foot is reserved; black band on underside; bottom reserved; reserved areas exhibit added red pigment.

   5th or early 4th century; judged largely from the quality of the black glaze. The D of the foot is rather large for a skyphos. Perhaps the piece comes from a bowl; cf. Sparkes and Talcott (1970 : no.778). Perhaps the piece comes from a "one-handler"; cf. Sparkes and Talcott (1970 : 741 and note the decoration of the underside of the base, pl.31, no.748).

Astakos

5. Fig. 49.E, Pl. 25.A. 'CORINTHIAN A' AMPHORA. Lower portion of handle. Pres. H .084. Fabric: brick orange clay with large white, red, gray and med. black inclusions. The lower outer face of the handle bears a worn stamp.

   Late 4th century. Characteristic 4th century 'Corinthian A' fabric. The shape of the stamp's field is similar to that of other palmette stamps which were numerous on Type A in the second half of the 4th century. Cf. Koehler (1978 : 2 and 52-53) for descriptions of both the fabric and the palmette stamps; cf. Koehler (1978 : nos.140, and 146b) for a similar shape of stamp.

Pirgos on the Sklavaina Road

6. Fig. 50.A, Pl. 25.C. LEKANE. Frag. of rim. Est. D of rim ext. .400, int. .330; Th of wall .006. Fabric: light reddish brown med.-fine clay with small black and fine sparkling inclusions. Thin brown glaze on int. and on upper surface of rim.

   Late 4th to early 3rd century. Cf. Thompson (1934 : profile A61, Fig. 122); cf. also Marinatos, AE (1933), Eik. 46, pp.96 and 98 for a similar piece found on Kephallenia.

7. Fig. 50.C, Pl. 25.C. PLATE or SAUCER. Frag. of ring foot with floor and part of wall. Est. D of ring foot .070. Rouletting in a band on the floor of the plate. Fabric: reddish brown med.-fine clay with small black and white inclusions. Black glaze int. and ext.; now a streaked brown.

   Hellenistic. Rouletting or "chattering" begins c. 390-380 and continues through the Hellenistic period; cf. Sparkes and Talcott (1970 : 30).

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8. Fig. 50.B, Pl. 25.C. LAGYNOS or JUG. Neck and rim with upper portion of handle attached. Pres. H .077; pres. D of rim .057; pres. ext. D of upper neck .036, lower neck .034; Th of lower neck wall .006. Fabric: light brown med.-coarse clay with med. white, black and fine sparkling inclusions.

   Late 2nd century (?). No exact parallels, but the general type exists from the late 2nd century through the 1st century A.C. Cf. Thompson (1934 : fig.31, pp.347-348; JHS 74 (1954), p.175, pl. X:1,6; Robinson (1959 : 15, F45).

9. Fig. 50.F, Pl. 25.C. BOWL. Ring foot. D of foot .064. Fabric: reddish brown med.-fine clay with small black and fine sparkling inclusions. Black glazed int., now worn to a streaked brown-black.

   Late Hellenistic; perhaps 1st century according to the opinion of G.R. Edwards.

10. Fig. 50.D, Pl. 25.D. LAMP. Lower and inner portion of handle. Pres. H .038; Th lamp wall .004; est. D of lamp shoulder .090. Fabric: reddish brown fine clay. Reddish brown glaze on ext. Mold made.

    C. 50-100 A.C. Probably from a (Broneer) type XXV lamp; cf. Broneer (1930 : 83-87); cf. also Perlzweig (1961 : 7).

11. Fig. 50.E, Pl. 25.D. BELL CUP with flanged rim. Frag. of rim and upper body. Pres. H .025; est. D .120. Fabric: pinkish brown fine clay with small black and a few fine sparkling inclusions. Orange-brown glaze with a dull sheen. Rouletting and grooving on rim.

    First half of 1st century A.C. Cf. Robinson (1959 : G28, G35 and G71).

Palairos (Kechropoula)

12. Fig. 51.C. CONICAL LOOM WEIGHT. H .063; D of base .044. Fabric: light yellow med.-coarse clay with a few large white inclusions.

    Date Uncertain. For Korinthian parallels dating from the 6th to early 5th century, cf. Davidson (1952 : 150 and profile III, 1072-1074).

13. Fig. 51.A. CUP or PLATE (?). Frag. of rim and portion of upper wall. Est. D of rim .240; Th of wall .004. Fabric: orange fine clay. Good quality black glaze on int. and ext.

    Perhaps late 5th or 4th century. No exact parallels. Somewhat similar to Sparkes and Talcott (1970 : no.433), but the Agora piece is smaller (D of rim .189). G.R. Edwards believes this frag. may have come from a plate of the 4th century (personal communication).

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A close profile parallel is provided by Edwards (1975 : no.720) (D of rim .257) dating to 146 B.C., but this example is a cooking-ware plate.

14. Fig. 51.D. LAMP. One half of lower body and disc base with the two attachments of the vertical loop handle. Pres. H .032; D of body .068; D of base .045. Fabric: reddish brown, med.-fine clay with small black and fine sparkling inclusions. Dull black glaze on int. and ext.

    Latter half of the 4th century. Cf. Howland (1958 : Attic type 25A).

15. Fig. 51.B. 'CORINTHIAN A' AMPHORA. Lower portion of handle. Pres. H .075. Fabric: brick orange clay with large white, red, gray and med. black inclusions. The outer face of the handle bears a worn stamp at the base.

    Second half of the 4th to the early 3rd century. Cf. Koehler (1978 : nos.32, 52, 147-151 and pls. 22, 23) for examples with the same shape of field for palmette stamps.

Palairos: Ancient Harbor Mole Near Pogonia

16. Fig. 52.A, Pl. 26.A. 'CORINTHIAN B' AMPHORA. Frag. of neck and rim with the upper attachment of the handle. Cylindrical neck and rim. Pres. H .150; est. D of rim .165; est. max. D of neck .123. Fabric: light chocolate-brown, med.-fine clay with a few small to med. voids and small gray and fine sparkling inclusions.

    Early 3rd century. Cf. Koehler (1978 : nos.252, 253 and 266). Four examples of this amphora type were found on the mole; the two not illustrated exhibited 'squashed necks' (occurring in 'Corinthian B' shapes during the 4th and 3rd centuries; cf. my no.17, Fig. 52.C for an example) and both were resin lined. C.G. Koehler believes that "the squashed effect may have originated through the natural tendency of the upper neck and mouth to warp and become squashed when the high-arching handles were attached ...." (Letter received from C.G. Koehler, March 1, 1982).

17. Fig. 52.C, Pl. 26.A. 'CORINTHIAN B' AMPHORA. Upper shoulder and neck with one small piece of the handle attachment on upper neck; rim not preserved. Upper neck squashed. Pres. H .180; pres. D of neck int. .085 (at shoulder). Fabric: brick red med.-fine clay with a few voids and a few med. gray, fine white and fine sparkling inclusions. Resin lined.

    Late 4th to 3rd century. Cf. Koehler (1978 : nos.255-271). C.G. Koehler informs me that "the handle attachment preserved, however small, is the close-pressed one of characteristically high-arched Type B handles." (Letter received from C.G. Koehler, March 1, 1982).

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18. Fig. 52.E, Pl. 26.B. ROMAN AMPHORA. Frag. of rim and neck with upper handle attached. Pres. H .095; est. D of rim .130. Fabric: dark reddish brown, gritty clay. Badly encrusted with marine growth.

    Second half of 2nd century. Similar to Ath. Agora no.P25797, dated by context pottery.

19. Fig. 57.D, Pl. 26.C. ORIENTAL JAR. Portion of body, shoulder and one handle. Pres. H .170; est. max. D .250; est. D from one handle attachment to the other .150. Fabric: brick red med.-coarse clay with med. red and many fine sparkling inclusions. Resin lined.

    Uncertain date. This general type of jar is long lived; examples occur as early as the 10th century B.C. and continue into the 6th and 7th centuries A.C.; cf. A. Zemer, Storage Jars in Ancient Sea Trade (Haifa, 1977). Since the neck and rim are missing, one has only the wheel ridging to help with the date. This would indicate a later rather than an earlier date. None of the Agora examples dating from the 2nd to the 6th centuries A.C. exhibit handles which are set exactly at the correct place on the shoulder; cf. Ath. Agora nos.P25081 and P11556 = Robinson (1959 : M 329)--early 6th century A.C. A possible parallel exists in examples found in the excavations at Karthage. These pieces date to the 5th and 6th centuries and originate in Palestine. So far, little has been published about them, but a discussion of these pieces is apparently in press (cf. J.A. Riley in Excavations at Carthage 1977 Conducted by the University of Michigan, Vol. IX, ed. J.H. Humphrey (Ann Arbor, Michigan, 1981) 117 and 121, 'LR Amphoras 5 and 6').

Field Near Pogonia

20. Fig. 53.A. AMPHORA. 'Knob' toe and portion of lower body. Pres. H .079; D of 'Knob' toe .052. Fabric: creamy light brown clay, shading to a pink in the core with small-med. voids and a few med. white and fine black inclusions.

    Uncertain date. Although this piece is somewhat similar to the 'peg' toe of a 'Corinthian A' amphora of the early 4th century, C.G. Koehler assures me that this toe is not of Korinthian manufacture.

21. Fig. 53.B. 'CORINTHIAN B' AMPHORA (?). Handle. Pres. H .091. Fabric: same as no.20. Stamp on upper outer surface of handle: Π.

    4th to early 3rd century (?). According to C.G. Koehler, this piece might be from a 'Corinthian B' jar "because of the arched upper curve of the handle fragment, and the flattening of the

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upper attachment." (Letter received from C.G. Koehler, March 1, 1982). For the stamp type, cf. Koehler (1978 : no.419).

22. Fig. 53.C. 'CORINTHIAN B' AMPHORA. Handle. Pres. H .128. Fabric: same as no.20. Stamp on upper curve of handle: T.

    Late 4th to early 3rd century. Similar to Koehler (1978 : nos. 470 and 473).

23. Fig. 53.D. 'CORINTHIAN B' AMPHORA. Handle. Pres. H .173. Fabric: same as no.20. Stamp on outer face of handle just beneath the curve: Π.

    Late 4th to early 3rd century. Similar to Koehler (1978 : no. 419). Although the single letter stamp of this example occurs in a circular field at the base of the handle, C.G. Koehler assures me that other stamp types (and sometimes stamps from the same die on different handles) are found impressed both on the bases and the upper curves of different examples. The apsidal field is not attested elsewhere on other Korinthian examples; it is possible that this particular shape of field is an accident of the impressing.

Kastri Lithies

24. Fig. 51.E. LAMP. Frag. of spout. Pres. L .042; pres. H .022. Fabric: light brown med.-fine clay with small voids and small black and fine sparkling inclusions. Gray discoloring at spout end shows use. Dull black glaze on int. and ext.; flaked off in many places. Nozzle is long, flat on its upper surface and with a blunt end.

    Late second quarter of 3rd century to at least the end of the century (perhaps into the early 2nd century). Cf. Howland (1958 : type 32); cf. also Broneer (1930 : 49-51, type X).

25. Fig. 51.F. CORINTHIAN SAUCER. Two frags. giving profile, part of ring foot and rim. Est. H .044; est. D of rim .13; est. D of ring foot .045; Th of wall .003-.004. Fabric: light brown med.-fine clay with fine black inclusions and a few small-med. voids. Thick metallic black glaze on int.; ext. reserved.

    3rd to mid-2nd century. The full development of the type runs from the second quarter of the 4th century to 146 at Korinth, but only the ones after the end of the 4th century are not carefully glazed on the exterior. Cf. Edwards (1975 : 42-43, no.174).

26. Fig. 51.G. LAMP. Two frags. from same lamp (?): portion of lower body with low disc foot (concave on underside of base), and portion of rim. Est. D of foot .050; est. D of lamp body .067-.070.

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Fabric: light pinkish brown, fine clay with small voids and small black and fine sparkling inclusions. Brown shiny glaze on ext. and int.; badly worn.

Late 4th century. Cf. Broneer (1930 : type IV, esp. fig.14, profile 20, p.32). The later examples "have a red or mottled red and brown glaze." The latest examples cannot be earlier than the end of the 4th century (p.41).

Phagia

27. Fig. 52.D, Pl. 28.E. 'CORINTHIAN A' AMPHORA. Toe. Pres. H .075; pres. D of toe at base .071. Fabric: brick red coarse clay with many voids, large red and small-med. black and gray, and small sparkling inclusions.

Late 6th to first half of the 5th century. C.G. Koehler believes that this example is midway in size between toes of the first half of the 6th century and those of the mid-5th century (letter received C.G. Koehler, March 1, 1982); cf. Koehler (1978 : nos. 24 [520-490 B.C.], 25 [last quarter of the 6th or early 5th century], 29 [late 6th to 480]and 35). Cf. in general Koehler (1981 : 449-458 and Pls.98-99).

28. Pl. 28.D. SAND CORE GLASS. Frag. of blue glass with yellow-white threads (scale in the photograph is in mm).

Hellenistic. M. McClellan believes this frag. is from a Hellenistic aryballos (personal communication).

Vathy Avali

29. Pl. 28.F. ROULETTED CLOSED VESSEL. Four frags. showing rouletting which come from the upper shoulder of the vessel. Th of wall .006-.008. Fabric: light reddish brown, med.-fine clay with small black and fine sparkling inclusions. The rouletting has been made by means of a metal toothed wheel.

Uncertain date. No exact parallels. Because of the rouletting, these frags. should be no earlier than the early 4th century; and since a metal rouletting wheel was used, they are probably no earlier than the Hellenistic period; cf. Sparkes and Talcott (1970 : 30).

Pirgos on Kotcupa

30. Fig. 54.A, Pl. 27.C. REEDED BODY CYMA KANTHAROS or AKROKORINTH KANTHAROS. Two body frags. showing incised reeding. Th of wall

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.003. Fabric: light pinkish brown, fine clay with small voids, and small black and fine sparkling inclusions. Dull black glaze worn into streaks on one frag.

4th to 3rd century. Cf. Edwards (1975 : no.437 and also p.78).

31. Fig. 54.B, Pl. 27.C. RIBBED KANTHAROS (?). Small body frag. Th of wall .004. Fabric: light pinkish brown fine clay with a few small voids. Dull black glaze, weathered to a streaked brown on int.

Late 4th to 3rd century. Such ribbing exists in the 5th century, but in general, the glaze is of higher quality; cf. Edwards (1975 : no.443 [Cyma Kantharus]). According to G.R. Edwards, the ribbing and reeding becomes more sloppy in the later examples.

32. Fig. 54.C, Pl. 27.C. KANTHAROS (?). Small body frag. with "running ivy" decoration. Th of wall .003. Fabric: similar to no.30. Dull black glaze. Incised vine tendrils on ext.; the ivy leaf is very faded, but traces of the original white pigment still remain.

4th to 2nd century. The "running ivy" motif is a form of West Slope decoration dating from c. 330-146; see Edwards (1975 : 20-21). In the latter years of its use, the motif appears on plates and bowls.

33. Fig. 54.D, Pl. 27.C PLATE or BOWL. Frag. of floor exhibiting rouletting. So badly worn that the original Th of the wall cannot be determined. Pres. Th .005-.008. Fabric: light cream-brown med.-fine clay with a few small-med. voids, small black and a few fine sparkling inclusions. Red glaze with a large black spot showing uneven firing.

4th century to Hellenistic period.

34. Fig. 54. E, Pl. 27.C. LAMP. Right upper portion of spout. Est. D of lamp .080. Fabric: light reddish brown med.-fine clay with small-med. voids. Black glaze of fairly good quality on ext.; thinner black glaze on int.

Mid-second quarter of 4th century to first quarter of 3rd century. Cf. Howland (1958 : type 25A; rim profile like no.272).

35. Fig. 54.F, Pl. 27.C. PLATE or BOWL. Frag. of floor exhibiting rouletting. Th of floor .008. Fabric: similar to no.34, above. Black glaze of fairly good quality on upper surface; glaze on underneath surface is a dull brown. Two concentric bands of "chattering," an incised line (before glazing) and a stamped palmette on upper surface.

4th or 3rd century. Similar to two Attic imports at Korinth: C-53-66 and C-31-236.

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36. Fig. 54.G, Pl. 27.C. KANTHAROS. Frag. of molded foot and floor. Pres. H .020; est. D .090. Fabric: orange fine clay with fine sparkling inclusions. Good quality black glaze; slightly metallic. Grooved resting surface.

    Second quarter of 4th century. Cf. Sparkes and Talcott (1970 : no.707); my example is similar to a number of profiles in their fig. 7.

Sterna

37. Fig. 55.E, Pl. 27.A. 'CORINTHIAN B' AMPHORA. Toe. Pres. H .082; Th of wall .011. Fabric: light brown med.-fine clay with a few long, thin voids and a few fine sparkling inclusions. Right lower surface of toe is weathered.

    Mid-5th century. Cf. Koehler (1978 : no.229) and (1981 : Pl.99, c).

38. Fig. 55.A, Pl. 27.A. ROLLED RIM PLATE. Frag. of rim. Est. D of rim .138. Fabric: light brown, fine clay. Weathered black glaze on surface; underside shows a good quality black glaze.

    Mid-4th century. Cf. Sparkes and Talcott (1970 : no.1055; cf. also nos.1047 and 1057).

39. Fig. 51.H, Pl. 27.B. PYRIFORM SKYPHOS. Six frags. giving lower profile. Pres. H .065; pres. D of foot .068; Th of wall .005. Slight concave profile. Fabric: gray to chocolate-brown (unevenly fired) fine clay with a few fine sparkling inclusions. Black glazed; now weathered into streaks. American School of Classical Studies at Athens, Study Collection: ASP no.145.

    Mid-4th century. Cf. Edwards (1975 : profile 329, pl.13 and p. 70); cf. also Sparkes and Talcott (1970 : no.352).

40. Fig. 55.G, Pl. 27.A. PYRIFORM SKYPHOS. Frag. of ring foot and lower wall. Pres. H .033; est. D of foot .093. Fabric: chocolate-brown tc gray (unevenly fired) fine clay with a few fine sparkling inclusions. Black glaze weathered on int. and ext. into streaks.

    First half of 4th century. Similar to no.39; cf. Edwards (1975 : pl.13, no.329 [c. 350 B.C.]).

41. Fig. 55.B, Pl. 27.A. BOWL or PLATE. Rouletted frag. of floor. Th of floor .005. Fabric: light reddish brown fine clay with a few fine sparkling inclusions. Black glazed on int. and ext.; now streaked and faded black-brown.

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4th century to Hellenistic period. The glaze would perhaps indicate a 4th or 3rd century date.

42. Fig. 55.C, Pl. 27.A. 'CORINTHIAN B' AMPHORA(?). Toe. Pres. H .073. Fabric: light brown med.-fine clay with med.-large voids and a few fine sparkling inclusions.

    Late 4th to 3rd century (?). Cf. Koehler (1978 : nos.249 and 284); cf. also my no.46.

43. Fig. 55.D, Pl. 27.A. Function Unknown. D .042; H .025. Fabric: light chocolate-brown med.-fine clay with small-med. voids, small black and a few fine sparkling inclusions. The piece is very worn on its ext., but seems to be entirely preserved. Its shape is roughly conical with a curved, or more probably, worn tip below and a thickened rim above (as illustrated in Fig. 55.D); the profile of this thickening is that of a cyma recta molding. The upper surface of the piece exhibits a single circular groove. Worn brown (originally black?) glaze on int.

    Date?

44. Fig. 55.F, Pl. 27.A. RHYTON CUP (?). Frag. of upper portion of vessel's body; the shape is that of a plastically molded sea monster or perhaps a boar. Pres. L .077; pres. W .050. Fabric: light reddish brown fine glaze on ext.; glaze somewhat metallic. Piece badly worn on most surfaces. Dull black glaze on int. The frag. exhibits an ear or lateral fin, a central dorsal fin or bristle mane, and incised eyes (the incising was done before glazing).

    Date?

Leukas Canal: South Mole

45. Fig. 56.A, Pl. 29.A. AMPHORA. Rim, neck and handles--one complete, attached to neck and upper body, one broken, attached to upper neck. D of rim .175; pres. H .190; Th of wall on upper body .007. Fabric: brick-red clay with med. voids and med. black, fine gray, white and sparkling inclusions; streaks of darker brown at core. Find spot: E arm.

    Date? The rim profile is quite similar to 'Corinthian B' examples of the 5th century, but C.G. Koehler informs me that this example cannot be a Korinthian piece -- "the handles are not arched enough, nor is the fabric typical. The piece may well be 5th or perhaps 4th century in date, but I do not know its type." (Letter received from C.G. Koehler, March 1, 1982).

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46. Fig. 57.B, Pl. 28.C. 'CORINTHIAN B' AMPHORA. Toe and lower portion of body. Pres. H .178; Th of wall .010. Fabric: light yellowish brown clay (light chocolate-brown band at core) with med.-large voids and fine black and white inclusions. Find spot: W arm.

    3rd century. Cf. no.42. Also found by T. Gallant in 3rd century contexts on Leukas (personal communication). C.G. Koehler informs me that the handle "and perhaps the neck (??)" illustrated in Pl. 28.C might be 'Corinthian B' examples dating to the 4th or 3rd century.

47. Fig. 47.C, Pl. 28.A. AMPHORA. Toe and portion of lower body. Pres. H .292; Th of wall .007. Fabric: brick-red gritty clay with many small and a few med. voids; the clay exhibited gray, sparkling and fine black inclusions. Find spot: W arm.

    Uncertain date. Perhaps 2nd century; cf. Deshayes (1963 : pl. LXVI, no.11, and pl.XX, no.8, profile 212 [but NB the fabric is different]). Perhaps 4th century A.C.; cf. Liou (1973 : 585, fig. 18.3 and p.586, also p.599, fig. 33.1 and p.600 with n.84).

48. Fig. 56.B, Pl. 29.B. AMPHORA. Rim, neck, handles (one complete, on broken) and upper body. D of rim .122; H of neck .072; pres. H .130. Fabric: light chocolate-brown core darkening slightly at ext. with med. voids, and med. white, small gray, black and fine sparkling inclusions. Find spot: E arm.

    Early 1st century A.C. Cf. Ath. Agora no.P8485 and BCH, suppl. I (1973), p.205, no.13.

49. Fig. 57.A, Pl. 29.D. JUG, ONE HANDLED (?). Rim, neck, one handle, upper body and shoulder. D of rim .065; pres. H .280; max. pres. D of body .380; Th of wall .011-.013. Fabric: light chocolate-brown (the int. surface is slightly darker) clay with many voids, and large white, small black, white and a few red inclusions; the clay also exhibited fine sparkling inclusions. The piece is broken where another handle might have been attached. Find spot: W arm.

    Christian Era. No exact parallels, but somewhat similar to a few Ath. Agora examples; see Robinson (1959 : M125, M281, and M282). The prominent wheel ridging might indicate an A.C. designation. T. Gallant has informed me that a similar example was found by S. Benton at Polis Bay, Ithaka in a Roman kiln of "republican date." The item is unpublished and currently at the Stavros Museum on Ithaka. I have not seen this piece.

50. Fig. 56.C, Pl. 29.C. 'FAT NECK' AMPHORA. Rim, neck, one handle, upper body and shoulder. D of rim .132; H of neck .080; H from shoulder to rim .220. Fabric: brick-red med.-fine clay with large

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and small voids, med.-large black, white and gray inclusions; the clay also contained small sparkling inclusions. Find spot: W arm.

4th century A.C. Similar to Ath. Agora nos.P22467, P1157 and P28359. According to V. Grace the type seems "to run to the late 4th century" (personal communication).

51. Pl. 28.B. AMPHORA. Large body frag. Pres. H .332; est. max. D .350. Fabric: light yellow-brown clay with a few med. voids, large white, red and small black and white inclusions; the clay contained a very few sparkling inclusions. Find spot: W arm.

4th to 5th century A.C. Cf. Robinson (1959 : M237 [late 4th century]); also similar to Ath. Agora no.P21840 (4th-6th century).

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APPENDIX C: CATALOGUE OF INSCRIPTIONS

1. Pl. 30.A. Oiniadai, the harbor fortress. A stamped Roman amphora handle found about 50 m north of the shipshed area's northern wall, near the harbor fortress' western wall. Latin letters, raised, in a sunken rectangular panel measuring 0.015 X 0.035. Letter heights 0.009-0.011. Width of inscribed portion of stamp 0.025.

As can be seen from Pl. 30.A, the stamp occurs on the upper portion of the handle's curve. The letters CALAM probably refer to the manufacturer or to a magistrate. Fabric of handle: light reddish brown clay with med. and small white, black, red and fine sparkling inclusions.

2. Pl. 30.B. Astakos, the ancient city. Sepulchral inscription located approximately 3.5 m north of the north wall of tower 9 (cf. Fig. 10). A gray limestone slab, broken at its upper left corner serves both as the end slab of a stone-lined cist grave and a headstone. It measures 0.7 m in width; the slab is 0.080 m thick and 0.32 m currently shows above the level of the ground. The grave itself measures approximately 1.8 X 0.85 m. Letter heights 0.055-0.07. The letters are roughly carved and somewhat weathered, yet they do not exhibit apices and the A does not have a broken crossbar.

4th century (?) Ἀναξαρέτας

For the name, see Bechtel (1917 : 45); see also Collitz and Bechtel (1899 : III, 484, no.3871). For a masculine "α-stem" with nominative singular = "ᾱ", genitive singular = "ᾱς", see C.D. Buck, The Greek Dialects, 4th ed. (Chicago, 1968) 156.

The inscription is peculiar in being inscribed on the end slab of a stone-lined cist. The grave's close proximity to the city wall (about 1.0 m from the curtain wall, to the east; cf. Pl. 30.C) is also interesting because it seemingly would have been dug while the city was fully inhabited. Some of the graves in the north cemetery at ancient Palairos were dug close to the northern wall of the city, but none were as close as this example.

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3. Pl. 31.A. Palairos (Kechropoula), the north cemetery (cf. Fig. 22 at 'B'). Sepulchral inscription recently unearthed by tomb robbers. Stele of white limestone crowned with a molding. Completely preserved. H 0.50; W at base of finished surface 0.22; W below top molding 0.20; W at molding 0.225; Th of stele 0.11. Letter heights 0.02-0.03. Carefully inscribed, but shallow letters.

3rd century

The stele is of [illegible]y type found throughout northwestern Akarnania, the 3rd century date is indicated by the shallow and careful inscribing of the letters (cf. IG IX 1^2, 499, 522, etc.). The first letter of the name is blatantly archaistic and offers two possibilities. If either a X (from the Achaian epichoric alphabet) or a Ψ [from the Korinthian epichoric alphabet--for both these alphabets, see Jeffrey (1961 : 227-228)], the name is rare. Χεφάρα is not attested as a name and neither is Ψεφάρα. According to Bechtel (1917 : 601), the name Ψιφύρα, Ψειφύρα is attested at Delphi in the 2nd century. But in fact, the name which appears at Delphi is Ψιθύρα, Ψειθύρα; see Collitz and Bechtel (1899 : II, 543, no.2218, lines 5 and 20). As a result, Bechtel's conclusion (1917 : 601) that this name may stem from σίπαρος, σίφαρος--Greek forms of the Latin supparus, supparum, an article of clothing--is untenable. If the name is to be read as Ψεφάρα, it may derive from ψαφαρός, ά, όν: "dusty."

4. Pl. 31.B. Palairos (Kechropoula), the north cemetery (cf. Fig. 22 at 'B'). Sepulchral inscription located in the remma east of the north cemetery, a some 100 m northeast of gate 6. Stele of white limestone, crowned with a molding. Broken along top molding. H 0.465; W at top of stele 0.165; W at base of stele 0.195; Th at top 0.10; Th at bottom 0.135. Height of Π 0.062; height of A 0.035. Very carefully inscribed except for the crossbar of the A.

3rd century

For other examples of this exact type of inscription at Palairos, see IG IX 1^2, 519. Klaffenbach, the editor, believes these stelai marked the graves of infants who died before receiving names; see Klaffenbach (1935 : 721 n.2). He argues that since the stelai give no age for the deceased, and since two other stelai were found at Leukas with only a Π inscribed on them (like two examples presented in IG IX 1^2, 519) they are similar in concept to Boiotian grave stelai bearing the inscriptions Πάϊς, Πάϊλλος, Κόρα, and Κόριλλα (IG VII, 690), the Α and Γ being short forms of πα(ῖς) and π(αῖς) respectively.

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The monogram [A] is a common one which appears in many localities and periods on coins [cf. Head (1911 : 381) for an Attic example dating between 229 and 197 B.C.; Syl. Num. Gr. DNM III.12, pl.2 nos.85 and 86 for two examples from Pandosia, Epiros dating between 238 and 168 B.C., and Vol. V, pl.5 no.223 for an example from Myrina on Lesbos dating between the 2nd and 1st centuries B.C.; etc.]. Since similarities of monograms are quite common on coins of different cities [cf. Thompson (1968 : 103)] exact parallels are merely fortuitous. Nevertheless, this monogram and slight variations of it occur on coins of the Akarnanian League [cf. Gardner (1883 : 169 nos.11-12); no.11 adds a "rho", i.e., [AP ; cf. also Syl. Num. Gr. IV.4 (London, 1956) no.2794]. A slight variation of this monogram occurs on fractional silver issues which Imhoof-Blumer (1878 : 153) has attributed to Palairos--[AP ; cf. also Syl. Num. Gr. IV.4 (London, 1956) pl.LI nos.2772-2773 for two coins found in Akarnania of "uncertain attribution"--[AR.

The use of such a monogram can have definite civic connotations (see IG IX 1^2, 391 which uses a monogram K to denote the nationality of a man being honored with προξενία; cf. also the use of the same monogram in IG IX 1^2, 17 where it is securely identified at line 88). It seems likely, therefore, that the monogram on this stele from Palairos was intended to signify the general ethnic Παλαιρεύς, Παλαιραία (cf. IG IX 1^2, 379) or Παλαιρέων. This would explain why no examples of such stelai have turned up at Palairos with a K inscribed on them (for κόρα etc.). Since these stelai are regularly smaller than those inscribed with full names, Klaffenbach may be correct in attributing them to the graves of unnamed infants.

5. Fig. 53.B,C,D. Field near Pogonia. Three stamped amphora handles (two, and perhaps, all three from late 4th to early 3rd century 'Corinthian B' amphoras) found in a field about 500 m northeast of the ancient mole near Pogonia (cf. Fig. 26, and Appendix B, nos. 21-23).

   a. Fig. 53.B. Raised Π in a sunken apsidal (?) or rectangular (?) field. Cf. Appendix B, no.21.

   b. Fig. 53.C. Raised T in a sunken apsidal field. Cf. Appendix B, no.22.

   c. Fig. 53.D. Raised Π in a sunken apsidal field. Cf. Appendix B, no.23.

6. Pl. 31.D. Field near Pogonia. Sepulchral inscription found in a field about 500 m northeast of the ancient mole near Pogonia (cf. Fig. 26). Revetment slab of limestone, broken on all sides. Pres. H 0.210; pres. W 0.180; Th along left side 0.015; Th along right side 0.013. Letter heights: line 1 = 0.011-0.013; lines 2-9 = 0.014-0.024. The letters generally increase in height from

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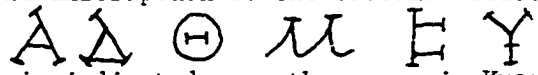
the top of the inscription to the bottom. Letter forms:



A circumflex is indicated over the omega in Κυριακῶ in line 2, and breathing marks are indicated for ἀπελευθέρω and ἡ in lines 3 and 4. All these marks are indicated by a ⊢ .

138 - 312 A.C.

Αὐρελίω
Κυριακῶ Σεβ<α>σ[τοῦ]
ἀπελευθέρ[ω]
ἡ μήτηρ ἐποί[ησε]
ζήσαντι ἔτη [..]
ὃς δὲ ἂν ἕτερό[ς]
σκοιλῆ, δώσ[ει]
τῶ ἱερωτά[τω]
ταμιεί[ω ---]

"The tomb of Aurelios Kyriakos, freedman of Augustus. His mother made it. He lived to be (--) years old. Should some other person molest this tomb, let him pay to the fiscus ...."

The man's name, Aurelios Kyriakos, freedman of Augustus, is somewhat revealing. A few examples exist of Augusti liberti bearing the nomen Aurelius as early as the reign of Antoninus Pius [cf. CIL VI, 8440; XIV, 250; for others see the list in Weaver (1972 : 304-305)], and at the latest, our Kyriakos could have been a freedman of Diocletian, Maximian or Maxentius, all of whom styled themselves as Aurelii. A date, therefore, sometime after 138 and before 312 (the date of Maxentius' defeat at the Milvian bridge) seems in order. And of course, our Kyriakos could be the freedman of any of a number of Aurelii Augusti who held power during the 3rd century.

According to Buckler et al. (1927 : 56 n.1), the name Kyriakos "is exclusively Christian." Of the 21 times the name appears in the IG and SEG volumes, 19 are in definite Christian contexts, and the remaining two (IG X 2, 783 and IG III 2, 3455) are ambiguous. It is quite clear from the large number of surviving Latin examples of this name that it was a popular Christian appellation [cf. Diehl (1961 : III, 44-45)]. We therefore, have no reason to doubt that our Kyriakos was a Christian. The appearance of the stone is in full agreement with a 2nd or 3rd century date, before Christianity was officially accepted by the Roman State. Accordingly, no mention is made of Christ, ὁ θεός, or an afterlife, and no Christian signs such as the cross appear above or beside the name.

It is impossible to determine Kyriakos' exact age at death (line 5), but it is likely that he was at least 20 and probably over 30 years old [imperial manumissions are rare under the age of twenty and most common between 30 and 35 years of age; cf.

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Weaver (1972 : 100-104), and he was still young enough to be survived by his mother (cf. line 4)]. It is truly unfortunate that his occupation is not recorded; presumably he had been responsible to officials of the familia Caesaris who were located at Nikopolis. Undoubtedly, the local office of the ἱερωτάτο ταμιεῖον mentioned in lines 8-9 was located there.

The type of supulchral imprecation contained in lines 6-9 is quite regular, and the ἱερωτάτο ταμιεῖον [i.e., the fiscus; cf. Rostowzew (1909: 2396) and also Millar (1963 : 29)] is often named as the recipient of such fines. The origin of this practice however, is unclear, and the fiscus is not always the recipient of such fines. Examples exist where the fines are paid to various gods, local communities, collegia and the Aerarium [cf. Millar (1963 : 38) and also the index of Cagnat et al. (1911 : I, 651) under multae sepulcrales, and the indices of Vol. III, p.671 and Vol. IV, p.741 under multae funerales].

This inscription provides an interesting example of the use of breathing and accent signs in texts of the 2nd to 3rd centuries. According to Threatte (1980 : 97), "the spiritus asper and apostrophe are found as early as the first century A.D. and occur occasionally thereafter, almost always in metrical texts ... usually separate monuments, sometimes dedications." For the use of a circumflex in an Attic inscription dated c. 220 A.C., see Threatte (1980 : 98, no.11). The particular form of the sign ⊢ , is used in other inscriptions to denote an abbreviation, [cf. Threatte (1980 : 105)], a diaerisis (p.95) and word division [set at ½ letter height; see Larfeld (1907 : 431-432) and also (1902 : 584)].

7. Pl. 31.C. Peratia. Sepulchral inscription located near the gate to the churchyard of the small chapel called Agia Sophiá (Fig. 34, at 'B') east of Peratia. Stele of white limestone crowned with a molding. Broken along the left and right upper sides; the crowning molding has been largely cut away on the front face. H 0.545; W 0.305-0.255. The stone was embedded face up in a mound of earth; T chose not to unearth the stele and thus, was unable to record the stone's thickness. The molding projects 0.008-0.009 and is 0.030 high. 0.010 of the stone is broken to the left of the name; 0.023 is broken to the right. Letter heights 0.020-0.025.

3rd century

The name is presumably the same as Ὀμφαλίων, attested in three Thessalian inscriptions [IG IX 2, 215 and SEG XXVII (1977) 183]. The name, otherwise unknown in Akarnania, probably derives from the Epirote tribe, the Omphales, whose central town seems to

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have been called Ὀμφάλιον; cf. Hammond (1967 : 680 and Map 16, p.674) and also Cabanes (1976 : 126-127). The ethnic form Ὄμφαλος occurs in an Epirote inscription found at Dodona [SEG XXIII (1968) 471, line 9; cf. also Hammond (1967 : 527 ff.)]. It is extremely likely, therefore, that our Ὀμφαλίων was an Epirote of the tribe Omphales, living in Akarnania. Since the letter forms of this inscription are similar to those dated by Klaffenbach to the 3rd century, it is quite possible that Omphalion was an Epirote soldier stationed in the Plagia Peninsula during the period of Akarnania's partitioning between Epiros and Aitolia, c. 252-c. 231.

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APPENDIX D

MASONRY STYLES AS DATING CRITERIA:

THE EVIDENCE OF THE WESTERN COASTAL SITES

All previous attempts to date the well preserved examples of Akarnanian masonry have been based entirely on historical arguments. Considering the diversity of the opinions which have resulted from this approach, it becomes clear that our interpretation of Akarnanian history is too ambiguous for it to provide us with a clear-cut chronology of masonry styles. Nevertheless, these various views have had some acceptance and since, in general, they are not supported by the findings of the present study, they must be examined now.

One school of thought, which has been defended at greatest length by R.L. Scranton, holds that "whenever a site in Acarnania possesses the remains of a series of walls, and polygonal is represented, the polygonal style, with irrelevant exceptions, is found to be the earliest when the series can be established."[1] The implication is clear: when polygonal is found with other styles, the polygonal sections antedate the rest. In essence, this view is very similar to Rhomaios' belief that whenever pseudoisodomic towers (and I prefer the more correct term "coursed trapezoidal") are found along a polygonal circuit (as at Oiniadai's Harbor Fortress), the towers have been added later.[2] Rhomaios, like Scranton, believed that in Akarnania the polygonal style was the earliest, and that this style was used exclusively for all the early Akarnanian fortifications. The walls of Stratos, built at least

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by the fifth century, display a coursed trapezoidal style but this was necessitated, according to Rhomaios, by the way the local stone naturally fractured--horizontally. In the later period, this "pseudoisodomic" style was preferred (his dated type site is New Pleuron, built soon after 234), although the polygonal was not totally forgotten.[3]

The problems with this general theory were discussed when examining Oiniadai's Harbor Fortress, Pirgos on the Sklavaina road, and Palairos. Each of these sites presents an example which proves an exception to the rule. It seems safest therefore, to return to the general observation made by Noack almost a century ago that Akarnanian coursed trapezoidal towers were built along with polygonal curtains in the same building program.[4] This does not mean to say that such towers were never added to a pre-existing polygonal curtain, but it does mean we must abandon Scranton's statement as a rule of thumb.

E. Kirsten recognized problems with the "polygonal first" rule of Rhomaios and Scranton, and developed a theory out of a common view of Akarnanian "backwardness" which is still current among historians of Greece. In general, this theory holds that during the fifth and fourth centuries, the Akarnanians were a backward people who, like the Aitolians, lived in small unfortified villages.[5] It is a belief which finds its roots in Thucydides' statement (1.5.3) that the Akarnanians, Ozolian Lokrians and Aitolians (among others) still lived according to an old fashioned way of life; he particularly notes their habit of carrying arms. Thucydides continues:

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> For all of Greece used to carry arms because their homes were unprotected and communications between one another were unsafe; it was customary to go about one's daily affairs armed, just like foreigners do. The proof that this was once the custom for all Greeks is provided by these Greeks who still live in this way [i.e., carrying arms during their day-to-day life] today.[6]

Kirsten has taken up this view and has furthered it by arguing that most of the stone fortresses and city circuit walls preserved in Akarnania today were not built until after the mid-third century. Until this time, according to Kirsten, Akarnania was a land of scattered unfortified villages, or more correctly, polis-areas.[7] He points to the passage cited above, to the fact that the Aitolians lived in unfortified villages (κατὰ κώμας ἀτειχίστους--Thuc. 3.94.4) and to the statements of Pseudo-Skylax that various ἔθνη of Epiros lived κατὰ κώμας, i.e., in unfortified villages. He then concludes that this must be the meaning of the word χωρίον which Thucydides uses to describe Astakos (2.30.1).

As a result of contact with the coastal cities of Korinth, the Akarnanian villagers advanced politically into πόλεις. Kirsten points out that only Thyrreion is referred to as a χωρίον by Xenophon in 374 (Hell. 6.2.37), the rest are πόλεις; still, according to Kirsten, they are not fully developed πόλεις. The synoikismos advised by Kassander in 314 shows that the Akarnanians experimentally tried to change from a life in scattered unfortified χωριά to one in a few fortified πόλεις of the "refuge-city" (Fluchtburg) type, and shows that c. 314, the only fortified places in Akarnania were Stratos, Agrinion and Sauria.[8]

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According to Kirsten, stone circuits were only built where the mass of defenders inside was inadequate to defend the walls fully, as was the case with these newly conceived "refuge-cities." He sees the fortifications at Messene as the example for the stone walls of this new type of settlement and argues that Messene's stone circuit probably dates to the mid-third century.[9] The Akarnanian and Aitolian examples date accordingly, to the late third century. Before this time, the Akarnanians, like the Aitolians, took to the interior of their country for defense.[10]

There are numerous problems with this theory, and the best way to discuss them is to recount them from the beginning. Kirsten places much weight on Thucydides' use of the word χωρίον to mean "unfortified village." It is clear, however, from a wide range of passages that the word means little more than "place"--a geographically defined area without reference to its particular fortifications or political status. In a number of passages, the word is even used to replace the noun πόλις. At 1.13.5, it is used for Korinth; at 1.36.1, it refers to Kerkyra; at 1.39.2, Epidamnos; and at 1.60.1, it refers to Potidaia, a place no one could argue was unfortified.[11] Furthermore, it is difficult to imagine a tyrant in control of a town, even for a short period of time, without some sort of fortified stronghold. Astakos, a χωρίον held by a tyrant, seems to have had some sort of defenses because we are told the "place" was taken κατὰ κράτος (2.30.1). This would certainly be a strange way to report the taking of an unfortified village by at least 1000 ἐπιβάται. Finally, when Thucydides reports that the ex-tyrant Euarchos persuaded the Korinthians to reestablish him ἐς τὴν Ἀστακόν (2.33.2),

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it is hard to imagine that the article τὴν does not tacitly imply a supressed πόλιν. It is perplexing why Kirsten even bothers to make the distinction between χωρίον and πόλις since he argues that the Akarnanian πόλεις mentioned by Xenophon (Hell. 6.2.37) were not fortified either. In conclusion, the evidence adduced by Kirsten does not really prove that the Akarnanian ἔθνος lived like the Aitolian and Epirote ἔθνη, i.e., κατὰ κώμας ἀτειχίστους during the fifth and fourth centuries.

In 314 when Kassander persuaded the Akarnanians to consolidate into a few cities, it is plainly absurd to envision the whole populace of Akarnania taking up residence in three eastern border cities. This observation was made long ago by Oberhummer.[12] Furthermore, to be strictly accurate, Diodoros does not use the verb συνοικίζειν, but rather μετοικῆσαι (19.107.4); this verb means to migrate from one abode to another and does not imply the creation of a centralized πόλις out of component parts which previously had no political organization, a meaning which might plausibly be read if the verb had been συνοικῆσαι.

My last objection concerns Kirsten's low dating of the stone circuit at Messene, generally believed to have been constructed at the time of the city's founding in 369.[13] As far as I can tell, his basic reason for down-dating the circuit is because he thinks it inconceivable that Messene should have a complete stone circuit before Athens built one in 307.[14] The invalidity of this type of argument is plainly evident.

I have discussed Kirsten's views in such detail for a number of reasons. First of all, Kirsten uses the western coastal sites

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frequently as examples to support his arguments. Secondly, his conclusions have a direct bearing upon our evaluation of the Akarnanians' political consciousness in the fifth and fourth centuries, and the resultant development of the Akarnanian League. And thirdly, the new evidence provided by this present study does not even vaguely support Kirsten's conclusions. Let us now turn to this body of evidence.

What follows is a listing of the masonry styles and technical features of western Akarnanian coastal fortifications by site. An asterisk (*) marks a site which is securely dated on good evidence; pottery evidence, it should be remembered, provides evidence for a period of use, not an original construction date.

* Site #1: The Harbor Fortress at Oiniadai exhibits a polygonal circuit with integrally bonded, coursed trapezoidal towers and jogs. Its towers and jogs exhibit drafted corners and many reused blocks; the fortification was built entirely in stone. Date: c. 219; the evidence is provided by Polybios 4.65 11 (see pp. 35-40).

Site #2: The Kastro at Agios Pandeleimona exhibits coursed trapezoidal masonry and perhaps originally was composed of a mud brick superstructure atop a high stone socle. The groundplan of Kastro is consistently curved. One large drain spout pierced the exterior of the stone circuit. Date: historical arguments (p. 59) suggest that this structure was built in the latter half of the third century.

Site #3: Astakos' city circuit exhibits both coursed and irregular (e.g., tower 1) trapezoidal masonry with swallow-tailed wooden clamps used throughout the towers. More than one building period is indicated by the irregular layout of the towers; the towers generally exhibit drafted corners. The wall was originally composed of mud brick atop a stone socle. Date: some fortification existed here as early as the

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late 430's, and by 389 it was sufficient enough to protect the city from Agesilaos; it is impossible to determine with any certainty when the final defensive groundplan was completed.

* Site #4: Kastri above the Mytikas Valley exhibits polygonal masonry with coursed trapezoidal jogs and the use of a revetted salient. Drafting is employed only on the corners of two jogs. Date: historical arguments indicate that Kastri was possibly built in the 230's; a sure terminus post quem of the late fourth or early third century is provided by the Lysippan style reliefs carved here (pp.90-91).

Site #5: Pirgos (Mytikas Valley) exhibits coursed, isodomic trapezoidal masonry with swallow-tailed wooden clamps used throughout (?). All four corners are drafted and the structure is built entirely in stone. Date: historical arguments provide only a very general date for this tower between the fourth and second centuries (p.86).

Site #7: Alyzeia's expansive circuit is composed of two sectors. The northern sector is built entirely in stone in a polygonal style (often coursed) with coursed trapezoidal towers; the southern sector was originally built in mud brick on top of a stone socle with regularly spaced towers, also of mud brick atop a stone socle. The stone socle of the southern sector is built at places in coursed trapezoidal and at others in polygonal masonry; the towers are built of coursed trapezoidal blocks. The towers of both sections exhibit drafted corners. At least one iron staple clamp is used in tower 15 and one half a swallow-tailed wooden clamp cutting appears in tower 20. Date: some fortification must have existed at least by the time of Agesilaos' campaign of the early fourth century; evidence of a sudden mid-fourth century prosperity at this city might indicate such a date as a terminus post quem for the construction of its fully developed circuit (cf. pp. 112-13 and p. 131 n. 83).

* Site #9: Pirgos (on the Sklavaina road) is composed of a coursed trapezoidal fortification set on a terrace held back by a polygonal

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retaining wall. The fortress was probably built entirely in stone. All three of the preserved corners exhibit drafting. Date: pottery evidence attests use of this structure in the late fourth or early third century; it was built, at the latest, by this time (see Appendix B, nos.6-7).

Site #10: Kastri (above Agios Athanasios) exhibits a polygonal circuit with a coursed trapezoidal section and a drafted corner at the jog northeast of area 'a'; the fortification is built entirely in stone. The small circuit is partially composed of a revetted salient and it is divided by a short median crosswall. Date: if Kastri is contemporary with the construction of the harbor near Pogonia, it was probably built in the mid-to-second half of the fourth century.

Site #12: Ancient Palairos' fortifications (at Kechropoula) display more masonry styles than those of any other western coastal site. The various styles include loosely and well jointed polygonal, an almost horizontally coursed polygonal, coursed trapezoidal and isodomic trapezoidal. The circuit originally exhibited two arched gates (one is still intact) similar in construction to Gate 'H' at Oiniadai. The northwest artillery bastion (tower 'C') displays evidence for the use of swallow-tailed wooden clamps in its superstructure. The wall running east from tower 6 is built with partial internal partitions,[15] and the wall running east of tower 'C' (in the section toward Gate 5) is faced in two different styles--coursed trapezoidal on the exterior and polygonal on the interior. Drafted corners are liberally used throughout the fortifications. The eastern proteichisma, along with its two towers, is built with polygonal masonry, but the towers have horizontally coursed, drafted corners. All the fortifications here are entirely built in stone. Date: the evidence favors a gradual building of fortifications starting no later than the fifth century and continuing at least through the third century (pp.155-156).

Site #14: Kastro on Kokkino Stephani (Trikorpho) displays polygonal style masonry with horizontal coursing at the corners, all of which were

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drafted. The internal face of the staircase exhibits coursed isodomic trapezoidal construction. The fortification is built entirely in stone. Date: although no pottery was found at Kastro, the fortification is probably contemporary with other signal stations of this area dating to the fourth and third centuries (cf. pp.208-11, 215-16).

* Site #15: Sterna's walls are built in a polygonal style. The fortress displays a bizarre groundplan, obviously built to follow the terrain, with towers concentrated at the north and south ends of the fortress; there is also a thickened platform or bastion at the north end. The faces of the blocks are flat dressed and except for one corner, there are no examples of drafting. The fortress, built entirely in stone, is divided roughly in half by a median crosswall. The remains suggest at least two building periods at Sterna. Date: some fortification probably existed here in the mid-to-late fifth century which was later rebuilt with concentrated towers at the north and south for the deployment of bolt projectors. Pottery evidence seems to indicate that the fortress was used into the third century and possibly later (see Appendix B, nos.37-44; cf. also pp.215-16).

Site #16: Kastro (at Xylopigadho) displays a retaining wall and a free standing wall, both built in a polygonal style. It is difficult to tell, but the northwest corner of the platform seems to display a drafted corner. The fortress is now too poorly preserved to determine the contruction of its original superstructure which was roofed with tiles. Date: general historical arguments would indicate a date sometime between the fifth and second centuries.

Site 17: Polyvoleio exhibits two different styles. The tower displays a well crafted base of pie-shaped blocks with smooth exterior faces; it perhaps supported a mud brick superstructure. The enclosure wall is polygonal in those few places where its preservation allows analysis. Date: the well formed base of the tower displays an appearance paralleled by known examples dating to the Hellenistic period, but it may also have been built in the fourth century (see p.162 with n.56).

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Site #20: Peratia (Dioryktos?) displays a ruinous circuit built of polygonal blocks. Date: before 30 B.C.; the evidence is insufficient to allow for more precision.

Site near #21: Kastro at Agios Georgios (Nerikos?) is reported by Dörpfeld to have exhibited the polygonal style in both towers and circuit. He does not comment on the presence of drafting. Its poor state of preservation even before Dörpfeld uncovered its line, may be due to the fact that the circuit was originally composed of mud brick set on a stone socle. Date: the site's placement flanking the eastern arm of the south mole implies that it was originally built to protect this side of the harbor--i.e., that it was built at least by the fifth century; this stands to reason if the site is indeed Nerikos (see pp. 186 ff.).

* Site #22: Kastri Lithies displays a loosely joined polygonal style and is built entirely in stone. The right-angled corners at the two gates do not display drafting. Date: pottery indicates that the fortress may have been utilized as early as the end of the fourth century, but certainly during the first half of the third century (see Appendix B, nos.24-26).

Site #23: Kasteli (at Phagia) is wretchedly preserved; what remains seems to have once been polygonal masonry. Perhaps the masonry at 'a' (Fig. 29) gives evidence that the corners were composed of horizontally coursed blocks (as seems reasonable anyway), but the remains are too poorly preserved to be conclusive. Date: before 30 B.C.; if Sollion was situated at Phagia, then this structure might date to the fifth century, or earlier (pp. 203-205). The late sixth/early fifth century amphora foot found here was unfortunately not found in direct association with the fill of the fortress (cf. Appendix B, no.27).

* Site #25: Pirgos (on Kotoupa) exhibits a rough polygonal masonry. It is now poorly preserved, but the structure was probably built entirely in stone. Date: pottery evidence indicates that Pirgos was built by the mid-fourth century and used, perhaps, through the third century (see Appendix B, nos.30-36).

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Conclusions

The clear-cut evidence provided by sites #1, #4, #9, #15, and #22 is in full accord with our rejection of Kirsten's theory. Fortifications were built in Akarnania (by Akarnanians) as early as the fifth century and it is therefore reasonable to interpret Xenophon Hell. 4.6.3-4 as implying that most of the small πόλεις of Akarnania were fortified by the early fourth century. This was certainly the case with Oiniadai before she was won over to the Akarnanian alliance in 424; Astakos was held temporarily by a tyrant and referred to as being taken from his control κατὰ κράτος; and it would be difficult to imagine an unfortified Palairos attacking the peraia of Leukas without fear of devastating reprisals against her own city. I believe it likely that Alyzeia was fortified as soon as she was settled; her topographical placement would dictate this. The site is set back far from the sea to discourage pirate attacks but otherwise its position is quite indefensible. The disposition of the walls around the central hill of the northern sector gives some support to this view (see pp. 109-110, 113).

Hill forts, refuge forts and signal stations were built as the times required. Kasteli at Phagia may have served as one of a few points of safety for the early inhabitants of the Leukadian peraia. Sterna served Palairos as a border station against this same peraia in the fifth century. After the Peloponnesian War, when Athenian and Lakedaimonian fleets again cruised these waters, a regular system of

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signal stations was developed by Palairos to provide early warning to all points of the Plagia Peninsula of enemy approach by sea.[16] But it was probably not until the Leukas Canal had been reopened and Palairos had built herself a harbor that the fortifications at Kastri (site #10) and then Pirgos (site #9) were built to relay signals from city to harbor. The increased traffic and greater prosperity along this coast also brought with it a greater risk of pirate attack and it is to the latter fourth century and the third century that refuge fortresses like Kastri Lithies, Polyvoleio and the Kastro at Agios Paneleimona were built.

In the Mytikas Valley, Kastri was built to warn the city against forces approaching from the north, perhaps against Illyrian pirate raids. Pirgos, on the other hand, could have been built at any time after the invention of the small bolt projector, i.e., during the course of the fourth or third century. The greatest periods of prosperity probably fostered the most ambitious programs of public building. And therefore, none of the fully developed city circuits of these coastal poleis should be dated before the mid-fourth century, or after the mid-second century.

When the masonry and construction techniques are listed with the earliest and latest dates of their occurrence, the results are somewhat instructive .

Loosely jointed polygonal is found at Palairos (sixth to fifth century) as well as at Kastri Lithies (late fourth century).

Well jointed polygonal is found at Sterna (mid-fifth century) and the

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Harbor Fortress at Oiniadai (c. 219).

Coursed trapezoidal is found at Pirgos on the Sklavaina Road (late fourth century), major portions of Palairos' circuit (some as early as the late fourth century?) and the Harbor Fortress at Oiniadai (c. 219). Coursed trapezoidal built at the same time as polygonal is found at Pirgos on the Sklavaina Road (late fourth century) and in the Harbor Fortress at Oiniadai (c. 219).

Use of wooden swallow-tailed clamps is found in the towers at Astakos (mid-fourth to mid-second century), Pirgos in the Mytikas Valley (fourth to second century) and the northwest artillery bastion (tower 'C') at Palairos (probably dating to the mid-to-late third century--see p. 149).[17] Use of iron staple clamps is rare, but one example is preserved in tower 15 at Alyzeia (mid-fourth to mid-second century) and there are two cuttings for staple clamps in a foundation block on the front face of tower 7 at Astakos (mid-fourth - mid-second century?); this same block exhibits cuttings for dowels to tie it to the next course above. Corner blocks are most often the ones exhibiting clamp cuttings; this is perfectly understandable since they were most easily displaced by siege machinery. A few of the foundation blocks in the corners of towers at Astakos were clamped with very large ▬ - shaped wooden clamps (Pl. 6.A).

Block faces which have been dressed flat appear at Sterna (mid-fifth century) and at Polyvoleio (fourth to second century.)[18]

Drafted corners appear at all the city sites and at numerous hill fortifications. The one example at Sterna is not sufficient for arguing its normal use in the fifth century, otherwise it is liberally used throughout the fourth and third centuries.[19]

In conclusion, this study has found no evidence to contradict the assertion that the polygonal style was the earliest one to be used in

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Akarnania. But the long life of the style renders this fact meaningless as a criterion for dating Akarnanian walls. It can also be said that no securely dated example of a wall built with a coursed trapezoidal style of masonry has been found before the mid-fourth century, although if one accepts my dating of the early fortifications at Alyzeia, one must also accept that coursed trapezoidal masonry with drafted corners was utilized for at least three towers (towers 16, 17 and 18). Furthermore, as noted by Rhomaios (p. 444, above), the walls of Stratos built in this style probably date to the fifth century and it is possible that stretches of the walls in this style at Astakos and Palairos also date this early. As stated previously, the choice of masonry style depends on a number of variables (see p. 156). As a general rule then, one should not place much trust in dates applied to western Akarnanian fortresses on the strength of the masonry styles of their walls and towers.

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Notes to Appendix D

[1] Scranton (1941 : 60).

[2] Rhomaios (1918 : 110).

[3] Rhomaios (1918 : 107-109).

[4] F. Noack, Berlin. Phil. Woch. (1897) 700.

[5] For this view see Busolt (1892 : 81), Busolt-Swoboda (1926 : 1461), Bengtson (1950 : 77), Rostovtzeff (1941 : Vol. I,90), and most recently, Lawrence (1979 : 121).

[6] Thuc. 1.6.1-2: πᾶσα γὰρ ἡ Ἑλλὰς ἐσιδηραφόρει διὰ τὰς ἀφάρκτους τε οἰκήσεις καὶ οὐκ ἀσφαλεῖς παρ' ἀλλήλους ἐφόδους, καὶ ξυνήθη τὴν ὁίαιταν μεθ' ὅπλων ἐποιήσαντο ὥσπερ οἱ βάρβαροι. σημεῖον δ' ἐστὶ ταῦτα τῆς Ἑλλάδος ἔτι οὕτω νεμόμενα τῶν ποτὲ καὶ ἐς πάντας ὁμοίων διαιτημάτων.

[7] Kirsten (1958 : 412 n.2, 605-606).

[8] Kirsten (1958 : 607-608).

[9] Kirsten (1964 : 908-10).

[10] Kirsten (1940 : 310).

[11] For other examples, see Bétant (1843 : II,515), s.v. χωρίον-oppidum.

[12] Oberhummer (1887 : 137 n.2).

[13] See, for example, Lawrence (1979 : 473).

[14] Kirsten (1964 : 909).

[15] For this technique, see Lawrence (1979 : 215). This method was a cheaper means of pinning the fill in the wall's interior than the building of complete internal partitions. Such partitions were often used on steep gradients and I would imagine were used to some extent in the western wall at this site (the wall's good state of preservation does not allow this technique to be easily observed).

[16] We know from Thuc. 3.80.2 that fire signals were sent from Leukas to Kerkyra to warn the Peloponnesians of the approach of an Athenian fleet: καὶ ὑπὸ νύκτα αὐτοῖς ἐφρυκτωρήθησαν ἑξήκοντα νῆες Ἀθηναίων προσπλέουσαι ἀπὸ Λευκάδος.... And Xenophon (Hell. 6.2.33-34) tells us how

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Iphikrates organized such a communications system on Kerkyra. He first reconnoitered the surrounds to determine a place from which any ships approaching could be seen and from which signals would be visible inside the city. He put men on watch at this point and arranged a system of signals with them to indicate when the enemy were approaching and when they were at anchor. Signalling capabilities already existed in the fifth century between Palairos and Sterna. Pottery evidence might indicate that a more comprehensive system was developed to warn the entire Plagia Peninsula during the mid-fourth century.

[17] The half clamp cutting in tower 20 at Alyzeia is an enigma (see p.131n.76).

[18] This seems to adhere to Lawrence's observation (1979 : 245) that "any flat dressed face should antedate the introduction of the heavy stone-projecting catapult, always provided that the blocks in question are placed where they would have been within range." Neither Sterna, nor Polyvoleio were intended to withstand such a bombardment.

[19] The technique of drafting a corner was to ensure that the wall was perfectly vertical; a plumb line could be held along the smooth strip at the corner; cf. Lawrence (1979 : 241-42). If one believes that the eastern proteichisma at Palairos is datable to the fifth century, the uphill outer corners on each of the two polygonal towers exhibit drafting. Yet the uncertainty of this wall's date has already been pointed out (see p.156).

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APPENDIX E

THE RELATIVE RISE IN SEA LEVEL ALONG THE WESTERN AKARNANIAN COAST:

SUMMARY

Since no major faults have been observed running perpendicular to the coast, it has been assumed in the present study that the relative rise in sea level experienced over the last 3000 years has been essentially the same along the entire length of Akarnania's western coast.[1] In other words, indicators of sea level rise observed at Leukas should, in general, hold true for Oiniadai as well. A core recently taken by J.C. Kraft and C. Villas just north of the shipsheds at Oiniadai seems to support this assumption (pp. 41-42). Their initial observations agree well with my proposed ancient sea level, determined largely from indicators at the South Mole at Leukas and supported by data from the mole near Pogonia and the dock in Mytikas Bay.

Perhaps in the late seventh century, but certainly by the fifth century, sea level relative to the land was approximately -3.4 ± 0.8 m (p. 241). By the second half of the fourth century, the sea level had risen relative to the land about 0.5 m and it now stood at approximately -3.0 ± 0.6 m (p. 174). Sea level relative to the land remained fairly constant (i.e., not rising more than a meter) for about 8-10 centuries. By approximately the sixth or seventh century of our era, it seems to have risen close to or over the surfaces of the moles built by Leukas and Palairos and the dock in Mytikas Bay. This latter surface seems to have been repaved at a higher level to offset the rise in sea level, but

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the gain was temporary (p. 119). Since that time, the sea level has risen an additional 1.3-1.7 m relative to the land.

Because of the steep-to nature of the Akarnanian coast, this change in sea level has not changed the coastline of western Akarnania in any drastic way. It is difficult to assess the effect on the Leukas Canal area or on the strait at Aktion because the local effects of silting have been so pronounced in these two areas. Local small scale silting has also occurred in the two small harbors of Agios Pandeleimona and Vathy Avali. It is clear from the existing bottom contours however, that these two coves would have been somewhat more constricted in antiquity but not so much as to have lost their value as harbors.

The fact that sea level was some three meters lower in antiquity does affect drastically our picture of Oiniadai, especially when it means that about five meters of alluvium would have to be removed to reach the ancient level of the sea (p. 41). What this would do to the configuration of the inner harbor near the shipsheds is difficult to imagine; it would certainly have been a good deal more constricted than it appears today, unless the inner basin had been artificially dredged. There may well be a town quay and warehouse buildings located in the back section of the inner harbor, currently covered by meters of mud.

One final observation can be made concerning the relative subsidence rates of Akarnania and Leukas as indicated by the South Mole at Leukas. At least for the last 3000 years, it appears that the land mass of Leukas and that of the mainland have remained approximately in the same position relative to each other. How much this change in sea level

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is due to a eustatic rise of the oceans or to a tectonic subsidence of the land is impossible to determine.

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Notes to Appendix E

[1] See Sheet 1 (Survey 4442) from British Petroleum Company, Ltd., The Geological Results of Petroleum Exploration in Western Greece (Athens, 1971), Number 10 of Greece, Institute for Geology and Subsurface Research, The Geology of Greece.

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APPENDIX F: KORINTHIAN-TYPE PEGASI FROM AKARNANIAN MINTS

During the course of the fourth century, a number of Akarnanian poleis minted silver staters which closely resembled coins of the same general period minted by Korinth, her colonies Leukas, Ambrakia, Kerkyra and Syracuse, and by numerous other poleis in northwest Greece, southern Italy and Sicily.[1] The coins were all of the same standard and of a strikingly uniform type, displaying the mythical horse Pegasus on the obverse, and the helmeted head of Pallas Athena on the reverse.[2] The evidence provided by the full and still growing record of Sicilian coin hoards has allowed for some precision in dating the majority of these issues, or "pegasi," to the period from the mid-fourth to mid-third century. Most recently, scholarly attention has focused on the reason or reasons behind the wide issuance of these pegasii and the finds, if correct, have definite implications for both the political and economic history of Akarnania, particularly for those cities presumed to have acted as mints--Alyzeia, Anaktorion, Astakos, Echinos (?), Koronta (?), Metropolis, Stratos and Thyrreion. In order to appreicate the implications of this phenomenon, it will first be necessary to review briefly the developmental history of the Korinthian pegasus as a coin type.

Korinth's earliest coins bore the winged horse Pegasus on their obverse and a "Union Jack" punch mark on the reverse. In addition, the obverse was signed with a small koppa to mark the coin as a Korinthian issue. The exact date of the introduction of this coinage to Korinth is unknown, but current opinion places it sometime during the first half of

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the sixth century.[3] Sometime during the last quarter of the century, it is likely that the archaic helmeted head of Athena was first added to the reverse in place of the punch mark, which, by that time, had evolved into a true incuse square subdivided into four smaller squares.[4] The first coins of Leukas are of this new Korinthian type, save for a lambda in place of the koppa to denote the differnt mint. Hereafter, the Leukadian issues essentially parallel developments displayed by the issues from Korinth.[5]

During the fifth century, a permanent mint was opened at Ambrakia which produced pegasi of Korinthian type, and it seems from die links in the earliest issues that Ambrakia's first pegasi were minted at Korinth.[6] If we accept the digamma signature as referring to Anaktorion, this Korinthian colony also issued a small number of pegasi during the latter half of the fifth century--coins similar in style to those of the Leukadian sequence which have been dated to the 430's.[7] This issue was apparently a singular occurrence, but the mints of Korinth's two other colonies, Leukas and Ambrakia, continued to produce pegasi throughout the fifth century.

During the first half of the fourth century, the mints at Korinth, Leukas and Ambrakia continued to produce a steady, though not excessive supply of these coins. A significant change however, is noticeable around the middle of the century when the Korinthian mint seems to have been reformed. In R.J.A. Talbert's words: "Pegasi minted before the changes--that is, Pegasi of Ravel's Period IV [c. 404-360, but as revised by Jenkins, c. 404-350[8]]--carry symbols on the reverse, whereas

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those minted after the changes (in Ravel's Period V) carry symbols and letters."[9] In Period IV the dies can be identified but in Period V they become too difficult to recognize and too numerous to count.[10] The new mint organization greatly increased output capabilities and this is reflected in the Sicilian hoards.

> Of 30 substantial hoards buried in Sicily between 340 and 290 in only two does the proportion of Corinthian coinage fall below 70 per cent, and in a selection of 14 hoards of which there is reason to think that the record is complete and reliable the average proportion of Corinthian coins is as high as 85 per cent.[11]

Jenkins and Talbert both use the term "flood" in describing the dramatic increase in the number of Korinthian-type pegasi which poured in Sicily at this time.[12] Furthermore, down to the mid-fourth century, the Korinthian-type pegasi are restricted to a few mints, but in the second half of the century, 20 mints in all were coining on the Korinthian model.[13] According to Kraay, all the Akarnanian mints which produced early pegasi started minting at this time.[14]

Although the phenomenon is clear, the interpretation of it is not. The major problems are threefold and have been clearly stated by Kraay: "(1) Exactly when did the pegasus, hitherto an alien and unfamiliar coin, become the accepted currency of E. Sicily for about two generations; (2) In what circumstances did this come about; and (3) Why was the pegasus adopted by a number of mints, especially in N.W. Greece, mints over which Corinth had no effective political control?"[15] Question one was first answered by Jenkins in 1958 (see note 1), who concluded that none of the Sicilian hoards then known to him (which

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contained a majority of pegasi) dated before the refoundation of Syracuse in 344 by Timoleon. He further argued that since the evidence from the hoards "could not plausibly be regarded as representing a gradual accumulation of pegasi in Sicily over a protracted period," there was every reason to interpret this flood of coinage as resulting directly from Timoleon's expedition.[16] First Kraay and then Talbert explored this idea in an attempt to provide an answer to the second question posed above. Talbert's ideas grew out of Kraay's, who has since proposed an alternate explanation. Let us first examine the earlier of these two ideas which I will hereafter call the "trade theory."[17]

The hypothesis of the "trade theory" is straightforward and results from a number of known facts. Since the bulk of the output of Korinthian-type pegasi ended up in Sicily (and the evidence from the hoards is very conclusive on this point), this theory argues that it "must be the result of enormously increased exports from the island to mainland Greece and elsewhere. Agricultural produce will presumably have formed the bulk of these exports."[18] And since constant warfare during the first half of the century had curtailed the minting of coins and a "currency vacuum" existed in Sicily, it would explain 1) why the pegasi were not melted down upon arrival and reissued as local types, and 2) why they remained the principal currency for about two generations.[19] The process was furthered, it is argued, by the influx of Korinthian settlers and the resultant rise in Sicilian prosperity. Eventually the flow of settlers ebbed and the Timoleontic era of peace was torn by renewed warfare. The minting of coins on the old Syracusan

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standard by Agathokles around the end of the century spelled the end of the pegasus in Sicily, and the hitherto "preponderant Corinthian coinage disappears from circulation."[20]

The "trade theory" answers the third question posed above by saying that the additional issues of Korinthian-type pegasi were the result of cities trying to cash in on the "new prosperity of trade between Sicily and Greece."[21] They minted coins very similar to the Korinthian pegasi because they wanted their coins to be accepted in Sicily. Talbert suggests that these cities probably appealed to Korinth for help in establishing their coinages, and suggests that Korinth even provided the dies. Those cities which minted coins only once or twice were just trying to reap a quick profit from the trade boom according to this view, and never intended to issue coins permanently.[22] This would presumably apply to the mints of Alyzeia, Astakos, Koronta, Metropolis and Stratos.

There are problems with this "trade theory" as Kraay later recognized. In response to these problems, he developed a new theory which I will hereafter call the "contributions theory."[23] One major problem which the trade theory did not address, according to Kraay, was the fact that if all the issues from the expansion mints (I prefer this term to the politically loaded "dependencies of Korinth" or "colonies" of Korinth which have been used heretofore) dated no earlier than the time of Timoleon's expedition, then "the hoards show that more or less simultaneously a whole series of new mints for pegasi was opening in N.W. Greece; at Corcyra, Dyrrhachium and Apollonia this represented a temporary departure from the local types and weight standard; at some mints

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pegasi were produced only on this single occasion."[24] Another problem was one of chronology. According to the arguments previously put forward by Jenkins, and Kraay's examination of the hoard evidence based on the hard-and-fast rule that the expansion mint coinage did not date before 344, Kraay observed that "the initial minting of pegasi everywhere else [i.e., in these expansion mints] preceded the revival of trade between Sicily and Mainland Greece."[25] His point that the trade boom must have lagged some years behind Timoleon's initial departure is well made. Kraay's solution is to interpret the first issues from the expansion mints as representing contributions to Timoleon's expedition which were made in response to a request for aid by Korinth.[26] When Timoleon minted coins a few years later from the Karthaginian booty taken at the River Krimisos [cf. Plut. Tim. 29; Diod. 16.8.5, 81.2; and Talbert (1971 : 54-55)] he issued pegasi of Korinthian-type, and thus set the pattern that others followed in successive years. Trade did play a part in bringing later issues of pegasi to Sicily, he argues, but the first issues from a number of mints in northwest Greece were totally unrelated to trade.[27]

I have presented the above information to establish the perceived problems and the attempts to solve them. Kraay's "contributions theory" is the most recent and the most persuasive, but there are some serious problems with it as a general theory to explain this mid-fourth century phenomenon. Coinage aside, H.W. Westlake has pointed out some distortions in our sources concerning Timoleon's expedition. Although Plutarch represents the army of Timoleon as "the Korinthians," and

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presents the expedition as a Korinthian venture, this reflects Timoleon's pro-Korinthian loyalty and propaganda more than any real initial Korinthian commitment to Timoleon.[28] For Kraay's hypothesis to be correct therefore, we would have to allow a greater Korinthian participation in Timoleon's enterprise than a critical evaluation of our literary sources might suggest. Furthermore, on close examination, Kraay's theory really cannot be correct as concerns the mints of Akarnania and perhaps Dyrrhachion. In fact, none of the rare issues of Alyzeia, Astakos, Stratos or the early issues of Thyrreion occurs in the four earliest hoards which contain a majority of pegasi. The standard explanation is that this is due to chance, because the total output of these mints (except for Thyrreion) never seems to have been very substantial.[29] I believe that the facts suggest a different theory, and propose that at least one of these Akarnanian expansion mints--Anaktorion--issued mid-fourth century pegasi before Timoleon's expedition, and therefore, the issue was totally unrelated to his war chest of contributions. We must now turn to the evidence provided by the coin hoards.

Three early hoards were known to Jenkins, but since his time another, even earlier hoard has come to light from Sicily, and it is this earliest hoard which provides the most telling information.[30] These four hoards are listed as follows.

1. Inv. 2127 = Sicily, 1960: 29+ silver coins; pegasi - Korinth (Per. IV) 19, Ambrakia 4, Anaktorion 2, Dyrrhachion (in mint condition) 3, Leukas 1; burial c. 350.

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2. Inv. 2130 = Licata, 1926: 91 silver coins; pegasi - Korinth (Per. IV plus Per. V signed E) 54, Ambrakia 4, Kerkyra 2, Dyrrhachion 2, Leukas 13, uncertain 1; burial c. 350-340.

3. Inv. 2131 = Centuripe, 1952: 88 silver coins; pegasi - Korinth (Per. IV plus 2 Per. V signed E) 41, Ambrakia 7, Anaktorion 1, Leukas 18, Syracuse 6; burial c. 340.

4. Inv. 2133 = Leonforte, 1952; 327 silver coins; pegasi - Korinth (Per. IV plus Per. V signed E and N) 159, Ambrakia 16, Anaktorion 10, Apollonia 1, Argos 3, Dyrrhachion 15, Leukas 78, Syracuse 15; burial c. 340-330.

If it is argued that the mint at Korinth was reformed in order to issue pegasi in greater numbers for Timoleon's expedition, and if we attribute this change to the introduction of Period V, then it is obvious that the coins of Dyrrhachion and Anaktorion which appear in hoard 1 (Inv. 2127) were likely to have been minted before this change. Indeed, if we utilize the date given by Kraay et al. for the burial of this hoard, then the mint condition coins of Dyrrhachion may have been issued in the late 350's while those of Anaktorion may be from the early 350's.[31] The relatively small number of coins (even though they are all pegasi) is in perfect accord with what we know of the output in Period IV, and thus, following Kraay's own argument, the Sicily, 1960 hoard (Inv. 2127) should be dissociated from Timoleon completely; it represents a hoard of coins deposited before his arrival. Kraay's statement that "apart from the long established mints of Leucas and Ambracia, none of the other mints of western Greece appears to have normally struck coins of Corinthian type before the period of Timoleon" is simply not supported by the evidence of this earliest hoard.[32]

An objection could be raised against placing too much weight on the

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evidence of this hoard, however. Since it was observed by Kraay "in commerce" in 1960, we perhaps do not have the entire hoard, i.e., there may have been Period V coins of Korinth which were originally in the hoard but were not seen with the selection of coins "in commerce."[33] Even if this hoard is regarded as inconclusive, there are other reasons for doubting Kraay's "contributions theory."

According to this theory, Inv. 2130, 2131 and 2133 are to be associated with Timoleon, i.e., they contain Period V Korinthian coins which were part of the war chest which Timoleon brought with him. The high proportion of Korinthian pegasi of Period IV (being pre-expedition) in all three hoards is therefore somewhat surprising. Kraay does not really explain how this could occur; if his theory is correct we should expect at least one of these earliest hoards to have nothing but Period V coins from Korinth. Kraay merely says: "The large stocks of Corinthian coinage of the first half of the fourth century which were attracted to Sicily following the expedition of Timoleon were presumably drawn from [such areas as Akarnania, Epiros and Aitolia]" where Korinthian coins had been used as the local currency.[34]

If we unburden ourselves of the notion that these four earliest hoards must be connected in some hard-and-fast way with Timoleon, then the evidence suggests a more gradual process of change between Period IV and Period V coinage than the one indicated by the "contributions theory." For Kraay's theory to be corroborated by the hoards, we should expect to find that Period IV pegasi occur in hoards with low percentages of pegasi in the first half of the fourth century. Then, we should

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find hoards composed predominantly of Period V Korinthian pegasi and coins from the expansion mints. This is not the pattern observed in the four hoards listed above; even discounting Inv. 2127, the other three hoards do not show a majority of Period V types among the Korinthian pegasi. Furthermore, are we to assume that because Aitolia, Epiros and Akarnania were such backward areas that they held onto their coins for incredibly long periods of time? This is almost as absurd as saying that in Appalachia, one would find large numbers of buffalo nickels in circulation.

Another problem with Kraay's "contributions theory" is that he really does not establish why many of the expansion mints (and in this case, I am particularly concerned with the Akarnanian ones) contributed money for the expedition. Since he freely admits that Korinth had no "effective political control" over these mints, his suggestion that these northwest Greek cities voluntarily contributed funds is unconvincing. To be sure, there are instances of Greek cities and individuals making contributions to the war chest of another city-state, but the examples Kraay adduces to prove his point are not very conclusive and are all based on clear tangible motives. The fifth century contributions to the Delian League were intially motivated out of the fear of a Persian presence in Ionia and were ultimately based on the fulfillment of the sacred oath which formed the alliance.[35] After the oath was forgotten and the Persian presence no longer a threat, member cities contributed because they were coerced to do so; to use Kraay's words, Athens had "effective political control" over them. The gifts that were made to

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the Spartan war chest (probably during the Peloponnesian War) came from the Melians, a pro-Spartan faction on Chios, and Ephesos, all of whom could expect to profit from an Athenian defeat.[36] And finally, those who contributed to the Theban war chest in the 350's did so to effect the expulsion of the Phokians from Delphi and could view their contribution as a sacred act of piety which might pay off in Delphic favors in the event of a Theban victory.[37] Although we know very little about Akarnanian - Korinthian political relations during the mid-fourth century, it is difficult to imagine any possible motive which Alyzeia, Astakos, Koronta, Stratos or Thyrreion would have had for contributing to the Korinthian cause.[38] Some other explanation than Kraay's "contributions theory" must be found for the Akarnanian mints' initial production of pegasi during these years.

Since a political motive seems out of the question (i.e., the contribution to Timoleon's expedition), we must return to the "trade theory" to explain the initial production of Akarnanian pegasi. I believe the impetus which led to their production must have been the reopening of the Leukas Canal and the increased traffic which frequented the western ports of Akarnania as a result of the thereby shortened and safer sailing route (see Appendix A).

As argued elsewhere, the Leukas Canal was reopened sometime between the Peloponnesian War and the completion of Pseudo-Skylax's Periplus in 348/7. Further considerations might seem to place the reopening sometime between 368 and 348/7 although this is far from certain.[39] There are however, two inscriptions which lend some credibility to a 360's

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date for the reopening of the canal and the resultant budding of economic growth in the western Akarnanian coastal towns. In 355 or shortly thereafter, Alyzeia contributed more than 30 minas to the Theban war chest; Anaktorion is also recorded as having given 30 minas.[40] If Korinthian-type pegasi were used, this represents at least 1500 coins per contribution. Such seemingly voluntary contributions indicate at least some degree of financial prosperity in these two areas.

An Epidaurian inscription dated between c. 365 and 356 lists 13 Akarnanian poleis which provided theorodokoi; a fourteenth was added sometime after 354.[41] Among these communities are the four major western coastal sites--Oiniadai, Astakos, Alyzeia and Palairos. F. Hiller has argued that the theoroi which were sent out to these towns were soliciting contributions for the building of the Asklepieion and the adornment of the sanctuary.[42] If he is correct, then at this time Akarnania was considered a profitable place from which to collect money.

The stele itself essentially records theorodokoi from places all along the coast from Greece to Sicily and it displays an overall east to west progression. The list includes many of the communities utilized by coastal traders, and although we cannot reconstruct the exact complete routes taken by individual theoroi, it is not wrong to say that, in general, these emissaries sailed from Korinth along the northern coast of the gulf and put ashore at various places along the coastal route to Italy and Sicily in order to journey to inland cities.[43] The probable fact that more than one ship and numerous theoroi were dispatched makes the final list appear a bit jumbled, but the overall picture is clear.

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If I am correct in my interpretation of this list, then the curious lack of poleis on Zakynthos or Kephallenia, plus the grouping of Leukas (which at this time was not in any way a part of Akarnania) with Alyzeia and northwest Akarnania, point to the high probability that the route utilized by these theoroi led in part up the Akarnanian coast and through the Leukas Canal. It might also be argued that if this was the preferred sailing route, it was more profitable to solicit contributions from the adjacent mainland (i.e., Akarnania) than from the offshore islands. Whatever one thinks of this reconstruction of routes, the observation still stands that Akarnania was thought a profitable place from which to collect money. A surplus of money must come from somewhere; the most logical explanation suggests an increase in trading opportunities, and this points to the navigability of the canal.

By the first half of the fourth century there had developed a tradition of using Korinthian-type pegasi for interstate trade in the Ambrakian Gulf region. This practice was established originally because Korinth had been the chief supplier of goods and because her colonies Leukas and Ambrakia conformed to the minting practices of their mother city.[44] When Anaktorion, also originally a colony of Korinth, struck coins in the latter half of the fifth century, she too minted a Korinthian-type pegasus. During the first half of the fourth century, when Anaktorion again minted coins, she did so on the same model as before, even though the descendants of her original Korinthian colonists had long since been replaced by Akarnanians who were initially quite hostile to Leukas, and indirectly, to Korinth. But this stands to reason since

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Leukas and Ambrakia were the major local participants in mercantile trade; to procure products either from them or from Korinth, Anaktorion conformed her coinage to the Korinthian model so it would be accepted.

The objection might be raised that Kerkyra had not felt constrained to conform to this Korinthian-type coinage. Yet, Anaktorion's position was quite different from that of Kerkyra. Kerkyra's distance from Korinth, and her wealth of resources allowed the colony to develop and maintain a position independent of Korinth both politically and economically at an early date.[45] The fact that no particular coinage had been previously established as the preferred currency in the area of her influence allowed Kerkyra to create her own coinage during the sixth century which was convertible to both the Korinthian standard and the "Euboeic" standard utilized by the colonies of Chalkis in Sicily.[46] Anaktorion, however, had no such choice. She had neither the resources of Kerkyra, nor a coinage vacuum in which to develop her own unique coin types. An acceptable model was at hand and she utilized it.

Sometime before 348/7, the Leukas Canal was reopened and this increased the contact between the western Akarnanian coastal towns and coastal traders. This sudden, increased access to markets further afield was no doubt immediately appreciated by coastal and inland towns alike, and an increase in the volume of both imports and exports would not have been slow to follow. The coastal poleis Alyzeia and Astakos seem to have made some sort of profit from this trade already by the mid to late 350's, probably by charging harbor taxes and by supplying services to the increased number of people using their ports.[47] Rough

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port facilities like a simple pier or landing may have been built during this time, although the well paved and relatively expensive dock at Alyzeia may not have been constructed until the increased volume of trade resulting from Timoleon's resettlement of Sicily justified its existence.

I do not mean to imply that we should dissociate the "flood" of fourth century pegasi from the period of Timoleon; this connection has been clearly established by Jenkins, Talbert and Kraay. I merely want to point out that the evidence from Akarnania does not support the theory that the issues of the Akarnanian expansion mints were initially coined for a contribution to Timoleon's expedition. To be quite honest, except for the coins of Anaktorion discussed in conjunction with the Sicily, 1960 hoard (Inv. 2127), none of the issues from Akarnanian expansion mints have turned up in the earliest hoards. Kraay says that the coins of Alyzeia, Astakos and Stratos appear to be early on stylistic grounds, but this still omits Thyrreion, Metropolis and Koronta which do not seem to occur in any hoards earlier than those buried in the late fourth century.[48]

What can be concluded from all this? At some point in the fourth century (earlier for some--like Anaktorion and perhaps Alyzeia, Astakos and Stratos, and later for others--like Thyrreion and Metropolis), some Akarnanian towns were engaged in sufficient buying and selling of goods to issue their own coins. In doing so, they minted coins of a type and standard that they knew would be accepted by those with whom they traded. Akarnania was not an area of exchange banks and these matters had to be

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carefully considered, especially when these cities began to construct public buildings, to build extensive fortifications, and accordingly, to order the necessary supplies such as rooftiles on consignment from places like Korinth. The long established coinage used for interstate trade in this area was the Korinthian pegasus, and the Akarnanian cities may have gone to Leukas or Ambrakia to obtain their dies or to hire an engraver. This certainly would not have been surprising in the case of Anaktorion, a former Korinthian colony and close neighbor of both Ambrakia and Leukas. The other cities conceivably could have used Anaktorion as an intermediary to obtain their own dies, and it may be that such formalities were not necessary.

I have tried to show that Kraay's "contributions theory" is both inadequate and unnecessary to explain the issuance of Akarnanian pegasi. I also believe there are problems with using it to explain the initial issuance of pegasi from the other expansion mints. Kraay's principal evidence for assuming that Korinth organized cash contributions from her dependencies and colonies is provided by a very fragmentary inscription found at Korinth which seems to have recorded a dedication of spoils from Timoleon's victories. Since Ambrakia, Kerkyra and Apollonia appear to be mentioned as dedicants, the monument on which the inscription was carved has been interpreted as a "pan-Korinthian" dedication of Korinth and her colonies.[49] The first two lines of the text have been restored by D. Musti to read: [Κορίνθιοι Λευκάδιοι Ἀμβρακι]ῶται Κο[ρκυ]ραῖο[ι Ἀ]πο[λ]λω[νιᾶται καὶ] / [Τιμολέων στρατηγὸς ἀπὸ τῶν] πολεμίων ἀνέθηκαν vac. Because the inscription ran across several blocks (the preserved

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text occupies the faces of two blocks), the length of the first line can only be guessed. The exact restoration is, therefore, solely dependent upon this being a list of Korinth and her colonies, ordered in a geographical progression from south to north; the text is by no means secure.[50] This uncertainty concerning the length of line one has led Kraay to take another step further into the unknown by restoring Δυρραχῖνοι after Ἀπολλωνιᾶται. If this had been the text, he argues, we then have an explanation why Kerkyra, Apollonia and Dyrrhachion all abandoned their traditional coinages to mint pegasi. According to Kraay, if they had all taken part in the venture as allies of Korinth, they can be presumed to have made contributions. And the presence of pegasi from Kerkyra and Dyrrhachion in the earliest hoards has led Kraay to conclude that Kerkyra, Apollonia and Dyrrhachion all abandoned their traditional standard and coin type at this time to mint Korinthian-type pegasi to serve as their contribution.[51]

Apart from the fact that the restoration of the inscription is extremely uncertain, a number of objections can be raised against this argument. The simple act of dedicating spoils does not necessitate that those who did so originally contributed hard cash to Timoleon's war chest. Kerkyra and Leukas may have done their part by providing ships, not silver.[52] Furthermore, the small size of the initial armament (700 men and seven ships) and apparent unwillingness of Korinth to take a more active role[53] does not agree very well with Kraay's theory that this was the reason behind the reorganization of the Korinthian mint, a reorganization whose main purpose was to produce a larger amount of

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coinage.[54] This argument would be more convincing if Korinth had thrown her full resources behind the expedition, much like Athens had done in 415. On the contrary, she seems to have sent little more than was required to keep the force a few months. After a few months, when glowing reports were received about Timoleon's initial successes, Korinth loosed the purse strings a bit and sent more money and reinforcements.[55] It was thus a well known fact that the initial sum of money had been used up. We hear of no further disbursements of funds from Korinth, an omission which might be attributed to the non-economic concern of our sources were it not for the fact that we are informed on three subsequent occasions of the economic difficulties faced by Timoleon and his allies in financing the war.[56]

In light of these objections, the reformation of the Korinthian mint and the initial output of the earliest expansion mints must be ascribed to something else. The earliest Akarnanian expansion mints have already been discussed. Other poleis, minting for the first time, might also have been conforming to a standard (as described above) which had been accepted by traders in the Greek northwest and in Sicily since the sixth century. This explanation, however, will not suffice for the mints of Kerkyra, Apollonia and Dyrrhachion, who normally minted coins of a type and standard similar to each other, but different from Korinth's. Their issues of pegasi provide the most perplexing problem of the expansion mint series. If Kraay's "contributions theory" is to be rejected for all the expansion mints, why then were these three poleis among the first to mint pegasi during the third quarter of the

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fourth century?

A possible solution emerges if we down-date, slightly, the reformation of the Korinthian mint, i.e., if we synchronize the introduction of the Period V coinage, not with the preparation for and departure of Timoleon's expedition in 344, but rather with the years immediately following the defeat of the Karthaginians at the Krimisos River in 339. If one accepts the view that this mint reformation was to allow for the production of a greater number of coins, and if this greater number of coins was not apparently to finance Timoleon's expedition, then it must have been as a result of an increased flow of trade. Such an event cannot be dated with precision, but it must have occurred shortly after 339, perhaps in coordination with, or in response to, the minting activities of Timoleon, who probably issued Korinthian-type pegasi immediately following his victory at the Krimisos River.[57] If Timoleon established a policy of minting Korinthian-type pegasi as the "new" coin of Sicily (a conceivable possibility in light of his pro-Korinthian stance) then it would have taken very little time for those poleis wishing to purchase Sicilian produce to fall in line with this practice. If our sources are to be believed, pro-Korinthian sentiment ran fairly high after Timoleon's victories in Sicily. Under the influence of this general feeling, poleis such as Kerkyra, Apollonia and Dyrrhachion (two of which are known to have supplied forces to the venture in Sicily[58]) might have immediately followed Timoleon's model by issuing Korinthian-type pegasi specifically for trade with Sicily.

If the above interpretation is correct, this would explain why the

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expansion mint pegasi of Dyrrhachion and Kerkyra can appear in hoards with Korinthian pegasi predominantly from Period IV. The earliest issues of Dyrrhachion might, therefore, date to c. 339, or soon thereafter. The Period V Korinthian pegasi could have been minted also c. 339, but as there were already coins of Period IV in circulation, what we see in the hoard record (pp. 470-71) is a gradual increase in the number of Period V coins relative to those of Period IV.

In summary, I see at least a two-part process at work. Sometime shortly before 348/7, the reopening of the Leukas Canal allowed for an increase in Akarnanian prosperity. When certain of the Akarnanian poleis decided to mint coins for their own trading purposes, they chose the Korinthian model, a coinage long established in the area by the mints at Leukas and Ambrakia. Slightly later in the century, when Timoleon opened the mint at Syracuse, he too chose to issue pegasi of the Korinthian-type. In making this choice, he did establish the pegasus as the particular coinage which would remain in use in Sicily for two generations, but he was also conforming to a convention that had been long established in the Greek northwest. The result of his action may not have been forseen at the time, or it may have been a calculated decision. But, regardless of the initial intent, the Korinthian-type pegasus was adopted soon thereafter by towns in Bruttium, Sicily, Illyria and Akarnania in order to facilitate their own individual roles in a period of increased trade and economic growth--a period which seems to have lasted well into the third century.[59]

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As a result of the above discussion, we no longer have to posit some political tie between Akarnania and Korinth during the fourth century to account for its pegasus coinage. We are now free to examine briefly the nature of Akarnanian trade as reflected by the find spots of her coins. The locations of the hoards in which Akarnanian pegasi occur are very instructive because they can give an indication of where the Akarnanians purchased goods from abroad. It would be wrong to maintain that the location of every Akarnanian coin found abroad indicated the exact location of some imported product, but clusters of Akarnanian coins in a defined geographical area, plus the coins which are continually found in conjunction with Akarnanian coins, can give us an idea of the ports frequented by the traders which put into Akarnanian harbors. A quick look at the following list shows that Akarnanian coins have been found in hoards from Crete to Sicily, which is as one might expect. The Cretan examples are fortuitous but not accidental. Some connection existed between Thyrreion and Crete as is shown by an inscription of the first half of the third century, found at Thyrreion, dedicated by some Cretan to Pan and Priapos.[60] The dedication might even be that of some Cretan merchant, since coins from Thyrreion appear in both Cretan hoards (Inv. 151, 152). Other coins of Akarnania occur in quite predictable locations: western Greece (Inv. 88), Aitolia (Inv. 208), the Peloponnesos (Inv. 107), southern Dalmatia (Inv. 391), southern Italy (Inv. 1952, 1968, 1969, etc.), Sicily (Inv. 2127, 2144, 2146 etc.) and the environs of Korinth (Inv. 200).

The coins found in Sicilian hoards which frequently accompany the

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Akarnanian coins are those which one might expect if the merchant traveled a coastal route from Korinth to Sicily. A few examples will suffice.

> Inv. 2180 = Megara Hyblaia, 1966: burial in the early third century; contents: c. 530 silver coins; coins occur from Athens, Korinth, Metropolis, Koronta (?), Alyzeia, Leukas, Anaktorion, Thyrreion, Argos, Ambrakia, Alexander III of Makedonia, Dyrrhachion, Lokri, Mesma, Leontini, Syracuse, Siculo-Punic issues, Rash Melcarth.

Aside from the Athenian coins, these issues form a perfect sequence which in effect traces the outline of the route taken by the probable merchant who buried this hoard. A similar sequence of sites occurs for a whole series of hoards: Inv. 2127, 2131, 2132, 2133, 2135, 2144, 2145, 2146, 2147, 2148, 2149, 2151, 2152, 2153, 2169, 2179, 2180, 2181, 2183, 2185, 2187, 2188, 2189 and 2198. Furthermore, the hoards which contain issues of Alyzeia tend to corroborate 1) the conclusions reached in Appendix A (p. 413), and 2) my assertion that the Leukas Canal was again navigable by the mid-fourth century. The hoards in which coins of Alyzeia occur generally show the sequence Korinth, Alyzeia, Leukas, Anaktorion, which is exactly what one would expect if the canal was navigable.

When combined with the pottery evidence recorded at Leukas' South Mole and at the mole near Pogonia, the picture supplied by the coin evidence becomes more vivid. Korinthian goods such as pottery, rooftiles, wine and oil were loaded on merchantmen at Lechaion which then set sail out through the Korinthian Gulf putting ashore here and there to sell parts of their cargo.

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Many captains probably stopped at Naupaktos or Patras and then continued northwest to the ports of Akarnania. Here they sold lamps, coarse and fine pottery, rooftiles, and amphoras of wine and oil in return for Korinthian-type coin or an equal value of local produce, hides or livestock. The ships then continued up the coast playing the sea breeze to reach Leukas' large protected harbor. Here they could tie up along the extensive South Mole, sell some goods and load on others destined for the Ambrakian Gulf or for ports further north and west. Continuing in a similar manner as that described above, the coasters finally reached Dyrrhachion, apparently the most northerly port frequently visited. From here it was a simple matter to cross to Italy and then to continue toward Sicily from port to port, selling off cargo or making deliveries of goods previously arranged by consignment. When their holds were empty, they bought wheat or other grains to transport back to mainland Greece; a full cycle thus completed, the process would begin anew.[61]

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Akarnanian Coins in Recorded Coin Hoards

Inv. #	Date of burial	Location	Coin type	Partial list of coins
72	350-325	Palaiomanina	Peg.	L,AN,AMB,KOR
88	325-300	W Greece (?)	Peg.	S,AL,K,L,AN,AMB,KOR, DYR
106	4th C	Kerkyra	Peg. (?)	L, Kor. cols. of Ak.
107	late 4th C	Peloponnesos	Peg.	TH,ARG
140	300-275	Kephallenia	Peg.	L,AN,TH,AMB,KER,DYR
145	c. 280	Oiniadi	Æ	AK,O
147	280	Arta	Peg.	AK,L,AN,KOR
151	280-270	Crete	Peg.	TH,ARG,KOR,SYR
152	280-270	Crete	Peg.	AN,TH,KOR
171	250-240	Mykenai	Peg.	L,KOR
200	3rd C	Kyra Vrysi (near Korinth)	Peg.	L,KOR, frags. from "Kor. and her cols."
201	3rd C	Epiros	Peg. (?) drs. (?)	(drs. only from Ak. mints)
208	end of 3rd C	Aitolia (?)	Æ	S,TH
236	168-167	Dodona	drs.	AK,DYR
311	2nd C (?)	Thyrreion	Æ	O,L,TH,KER
312	2nd C	Matsouki (near Agrinion	Æ	AK,O
391	c. 330 (?) after (?)	S Dalmatia	Peg.	L,AN,KOR,DYR
1952	c. 300	Ruvo, 35 km W of Bari	Peg. (?)	TH, S Italian issues
1968	early 3rd C	Scandale, 15 km WNW of Kroton, Bruttium	Peg.	AN,AMB,ARG
1969	early 3rd C	Bruttium	Peg.	AN,TH,ARG,KOR, S Italian
1971	early 3rd C	Brindisi	Peg.	"55 Pegasi of Ak,"
1972?	c. 275	Lokri	Peg.	"many Pegasi"
1977	c. 270	Brindisi	Peg.	L,AN,TH, S Italian
2030	late 3rd C	Calabria	Peg.	K,AN,TH,ARG,SYR, S Italian issues
2127	c. 350	Sicily	Peg.	L,AN,AMB,KOR,DYR
2131	c. 340	Centuripe	Peg.	L,AN,AMB,KOR,SYR
2132	c, 340-330	Gabil Gabib	Peg.	L,AN,AMB,KOR
2133	c. 340-330	Leonforte	Peg.	L,AN,AMB,ARG,KOR,DYR, SYR
2135	350-325	Megara Hyblaia	Peg.	L,AN,AMB,KOR,DYR,SYR
2136?	350-325	Leonforte	Peg.	54 Pegasi
2144	330-310	Sicily	Peg.	AL,L,AN,AMB,KOR,DYR, SYR
2145	320-310	Cesarò, 40 km NW of Aderno	Peg.	AL,L,AN,AMB,KOR,DYR, SYR

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Inv. #	Date of burial	Location	Coin type	Partial list of coins
2146	320-310	Sicily	Peg.	L,AN,TH,ARG,KOR,DYR, SYR
2147	c. 310	Sicily	Peg.	L,AN,TH,AMB,ARG,KER, KOR,DYR,SYR
2148	c. 310	Sicily	Peg.	L,AN,AMB,ARG,KOR,DYR
2149	c. 310	Sicily	Peg.	L,AN,TH,AMB,ARG,KOR, KER,DYR
2151	c. 300 (?)	Pachino, 3 km NE of Coste Fondovia	Peg.	AL,L,AN,TH,AMB,ARG, KOR,KER,DYR,SYR
2152	c. 300 (?)	Selinunte	Peg.	L,AN,TH,AMB,KOR, plus an intrusive R. Rep.
2153	c. 300	Palma di Montechiaro, betw. Palma and Agrigento	Peg.	L,AN,AMB,ARG,KOR,DYR
2169	late 4th/ early 3rd C	SW of Syracuse	Peg.	L,AN,ARG,KOR,SYR
2179	early 3rd C	Syracuse	Peg.	L,AN,TH,ARG,KOR,SYR
2180	early 3rd C	Megara Hyblaia	Peg.	K,M,AL,L,AN,TH,AMB, ARG,KOR,DYR,SYR
2181	early 3rd C	Anc. Akrai	Peg.	AL,L,AN,TH,AMB,ARG, KOR,DYR,SYR
2182	early 3rd C	Sicily	Peg.	AN,ARG, c. 150 Peg. melted down
2183	early 3rd C	Capo Soprano	Peg.	M,L,AN,TH,ARG,KOR,SYR
2185	c. 289	Camarina	Peg.	M,K,L,AN,TH,AMB,ARG, KOR,DYR,SYR
2187	early 3rd C	Sicily	Peg.	AK,M,AL,L,AN,TH,AMB, ARG,KOR,DYR,SYR
2188	early 3rd C	Messina (?)	Peg.	AL,L,AN,TH,ARG,KOR, KER,DYR,SYR
2189	early 3rd C	Sicily	Peg.	L,AMB,ARG,KOR
2198	282	Gela	Peg.	K,L,AN,TH,ARG,KOR (coins all well worn)

Key to Mints:

AK	: Akarnanian League	KOR	: Korinth
AL	: Alyzeia	L	: Leukas
AMB	: Ambrakia	M	: Metropolis
AN	: Anaktorion	O	: Oiniadai
ARG	: Amphilochian Argos	S	: Stratos
DYR	: Dyrrhachion	SYR	: Syracuse
KER	: Kerkyra	TH	: Thyrreion

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Notes to Appendix F

[1] Imhoof-Blumer (1878 : 5-7) was the first to make a comprehensive list of the poleis which minted Korinthian-type pegasi. His attributions are followed by Head (1899 : xlviii)--a more available work--except for the fractional coins Imhoof-Blumer ascribes to Palairos, Herakleia and Phoitiai. The list is as follows: in Sicily--Eryx, Leontini, Syracuse; in Bruttium--Lokri Epizephryii, Mesma, Rhegion, Terina; in Illyria--Apollonia, Epidamnos/Dyrrhachion; in Epiros--Ambrakia; Kerkyra; in Akarnania--Alyzeia, Anaktorion, Argos Amphilochikon, Astakos, Koronta (?), Leukas, Metropolis, and Thyrreion. Head has made one addition to Imhoof-Blumer's list: Echinos (?) in Akarnania. My discussion of Korinthian-type pegasi issued during the fourth century owes much to the following studies: Jenkins (1958), Talbert (1971), Kraay (1969), (1973), (1976a)--a slightly expanded version of the previous study, and (1976b). All of my hoard evidence comes from Thompson et al. (1973), hereafter cited as Inv. plus the number of the hoard.

[2] Exceptions do occur; cf. Head (1889 : 98-99, nos. 7-17, etc.). For the weight standard of these coins, see Head (1899 : xix-xx). Throughout the following discussion I have adopted the following practice: the name of the mythical horse is written with a capital "P," the coin, with a lower case "p."

[3] Cf. Kraay (1976 : 79-80).

[4] Cf. Kraay (1976 : 80-81 and pl. 13).

[5] Kraay (1976 : 82).

[6] The standard interpretation is that these coins were minted at Korinth to pay the Ambrakian contingents that fought at Salamis and Plataia in 480/479; cf. Kraay (1976 : 82).

[7] Kraay (1976 : 125).

[8] For Ravel's chronology, see Ravel (1948), and for Jenkins' revision of the Period IV, Period V interface, see Jenkins (1958 : 373 ff.).

[9] Talbert (1971 : 53-54); on this change in general see Kraay (1976 : 85-87).

[10] Talbert (1971 : 54), Kraay (1976 : 87).

[11] Kraay (1969 : 54).

[12] Jenkins (1958 : 375), and Talbert (1971 : 54).

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[13] Supra n. 1.

[14] Kraay (1976b : 127 and n. 2), Kraay (1969 : 58 and n. 4), and (1973 : viii).

[15] Kraay (1973 : vi).

[16] Jenkins (1958 : 375, 378-79).

[17] The "trade theory" is not new; it was utilized by Imhoof-Blumer (1878 : 11-12) to explain this phenomenon, and was later picked up by Macdonald (1905 : 83), who presented it to a wider audience. For a clear introduction to, and discussion of, this "trade theory," see Graham (1964 : 121-23); cf. also Graham's conclusions concerning the seemingly analogous Boiotian coinage (pp. 124-28).

[18] Talbert (1971 : 56); cf. also Diod. 16.83.1, 83.3.

[19] Kraay (1969 : 59) and (1976b : 126).

[20] Kraay (1969 : 62).

[21] Talbert (1971 : 59).

[22] Talbert (1971 : 59-60). This explanation was in response to Kraay's conjecture (1976b : 60) that these additional issues were connected in some way to Philip II's establishment in 337/6 of the so-called League of Korinth. Talbert points out that Korinth was no more than an ordinary member of this League and that if it was a federal coinage, we should then expect other states in the League to have minted this type of coinage as well.

[23] The idea was first presented in Kraay's Presidential Address to the American Numismatic Society (1973) and then slightly expanded for presentation to the Eighth International Congress of Numismatics (1976a). The theory is also incorporated into Kraay's discussion of northwest Greek coinages in Kraay (1976b : 126-28).

[24] Kraay (1973 : viii).

[25] Kraay (1973 : viii).

[26] Kraay (1973 : ix-x).

[27] Kraay (1973 : ix-x) and (1976b : 128).

[28] Cf. Westlake (1969 : 279), and Westlake (1940 : 45). For Westlake's studies concerning the bias of our sources, see Westlake (1949) and (1938).

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[29] Kraay (1969 : 58), (1973 : viii) and (1976b : 127 n. 2).

[30] See n. 1, end.

[31] The consideration of any matter related to Korinthian-type pegasi has been strongly affected by the opinion that no expansion mint issue can date to the period before Timoleon's expedition. This presumably explains why Kraay (1976b : 126) reports that the four earliest hoards which contain a prominence of pegasi were buried "c. 340/330," but nowhere explains why he has down-dated the "c. 350" date he gives in Inv. 2127. Kraay (1976a : 100) informs us that the coins of Dyrrhachion in Inv. 2127 were in "mint condition," but without knowing the relative condition of the Anaktorion pegasi, it is impossible to estimate how much older than the Dyrrhachion coins they may be (whatever their absolute date). Please note that I have not accepted Kraay's dates for these coins, I have merely tried to carry his arguments to their logical conclusions. See pp. 482 ff. for my own views on these early hoards.

[32] Without seeing the coins it is impossible to tell, but it is logically possible that any of the Anaktorion pegasi from Inv. 72, 88, 2131, 2132, or 2133 could have been minted before Timoleon's expedition; for these hoards, see p. 487.

[33] Inv. 2127.

[34] Kraay (1976b : 86).

[35] Arist. Ath. Pol. 23.5; Plut. Arist. 25.1; cf. also Meiggs (1975 : 42-49) and Ste. Croix (1972 : 298-303).

[36] Cf. ML 67 (= IG V, 1) and Meiggs (1975 : 314, 322 and 359) for the individual motives of the contributors.

[37] Most scholars believe the contributions from Alyzeia and Anaktorion show that these two poleis were members of a central Greek alliance under the direction of Thebes. This view has been solely derived from the inconclusive evidence of this inscription (ML 67) but note that the view has been adopted simply because one desires to see some motivation for these contributions.

[38] Although we admittedly do not possess a full record of Akarnanian decrees, in all the inscriptions pertaining to or found in Akarnania, there is not one mention of Korinth--not even as an ethnic on a tombstone. In order to postulate a political connection between these two peoples, one has to fabricate it from thin air.

[39] Cf. pp. 245-46 and nn. 50-53.

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[40] See IG VII, 2418; and Tod 160, lines 7, 16-17. Considering the evidence from the Sicily, 1960 hoard (Inv. 2127) this sum could logically have been paid with the same type of coin as found in the hoard--at least in Anaktorion's case.

[41] IG IV 1^2, 94/95; cf. Hiller (1925-26), who presents the best discussion of the whole document.

[42] Hiller (1925-26 : 83).

[43] One could try to argue that these theoroi proceeded up through western Greece by land. One imagines however, that the purpose of their mission would have been to contact as many places as possible in the shortest time possible. This goal would most easily have been achieved in the manner described in the text.

[44] For a discussion of the process by which these colonies naturally utilized and then imitated the coinage of their metropolis, see Graham (1964 : 121-22).

[45] Cf. the remarks of the Korinthian ambassadors against the Kerkyraians recorded by Thucydides (1.37.3 and 38.5).

[46] Kraay (1976b : 128).

[47] Although the inscription IG IX 1^2, 583, shows that Anaktorion charged a 2% harbor tax (the πεντηκοστή, lines 31 ff.) in the late third century, it does not provide contemporary evidence. Nevertheless, such a tax was quite common during the fourth century [cf. Thiel (1926 : 62-67)] and it would be surprising if the harbor towns of Akarnania had not attempted to raise some public revenues by this device during these years.

[48] Kraay (1969 : 58 n. 4); cf. also pp. 487-88.

[49] For the description of the monument on which this dedication was inscribed, see Kent (1958). Kent's initial restoration has been revised by Musti (1962); general opinion favors Musti's text over that of Kent--cf. SEG XXII (1967), 218 and SEG XXIII (1968), 172.

[50] Cf. Musti (1962 : 451); the remainder of the text has been restored as follows:

[ταίδε πόλεις νομίσουσαι τὸν] κτιστῆρα Κόρινθον vac.
[.....24.....] χρησάμεναι vac.
[.....19.....έλευ]θερίας ἐπέβησαν vac.
[ἐκ Καρχηδονίων ὅπλα θεοῖσι] τάδε vac.

[51] Kraay (1973 : ix) and Kraay (1976a : 103).

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[52] Diod. 16.66.2; Plut. Tim. 8.3.

[53] Cf. pp. 469-70 and n. 28.

[54] See pp. 465-67.

[55] Diod. 16.69.4; Plut. Tim. 16.1-2.

[56] Diod. 16.73.1, 78.5-6; Plut. Tim. 23.4-5.

[57] Cf. p. 469; this is essentially the view expressed by Talbert (1971 : 54-56), except Talbert believes that Korinth served as the chief mint for this bullion. I feel that he does not adequately answer M.I. Finley's objection to this view; cf. Talbert (1971 : 56 n. 1). On the economic recovery of Sicily in general, see Westlake (1969 : 305-12).

[58] The force from Apollonia is attested by the inscription mentioned previously (p. 479); apart from the Korinthian inscription, a Kerkyraian contingent is known from Diod. 16.66.2 and Plut. Tim. 8.3.

[59] Cf. Imhoof-Blumer (1878 : 12) and Head (1889 : xlviii-lxvii).

[60] IG IX 1^2, 253.

[61] This general type of coasting operation is depicted in a speech of the Demosthenic corpus, Against Lakritos (Dem. 35.34); cf. also Paus. 4.35.6-7 for an account of Illyrian pirates pretending to be coastal traders. Even though our literary sources are generally quite silent concerning this kind of occupation, the evidence of the coin hoards indicates such coasting ventures were much more common than our literary sources might imply. For the grain trade from Sicily at this time, see Talbert (1971 : 56-57 with notes).

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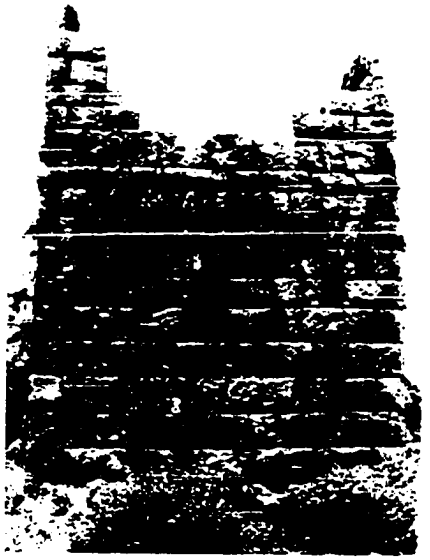

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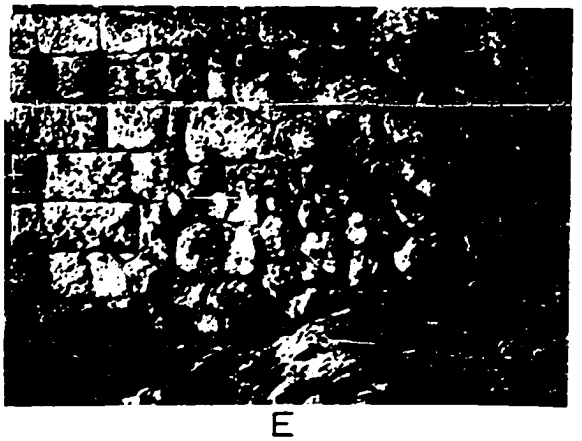

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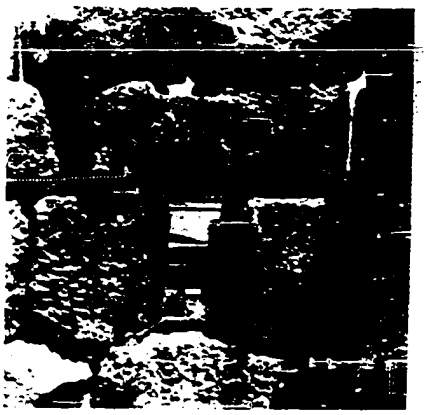

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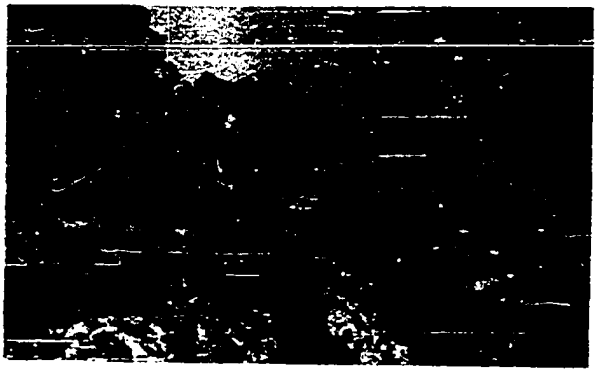

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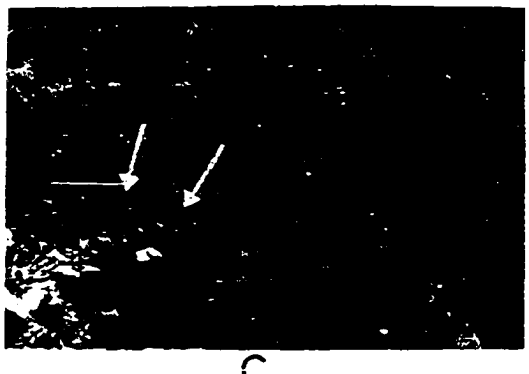

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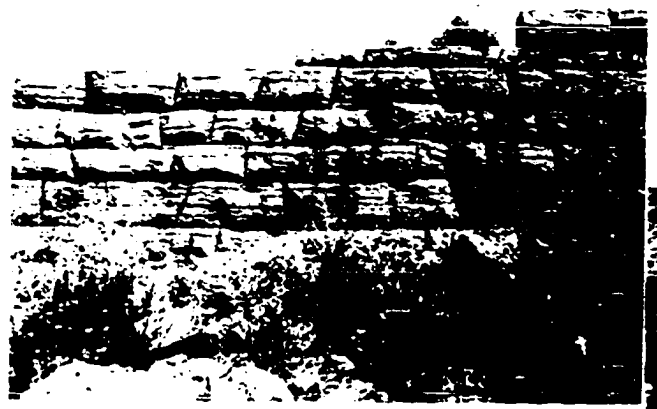

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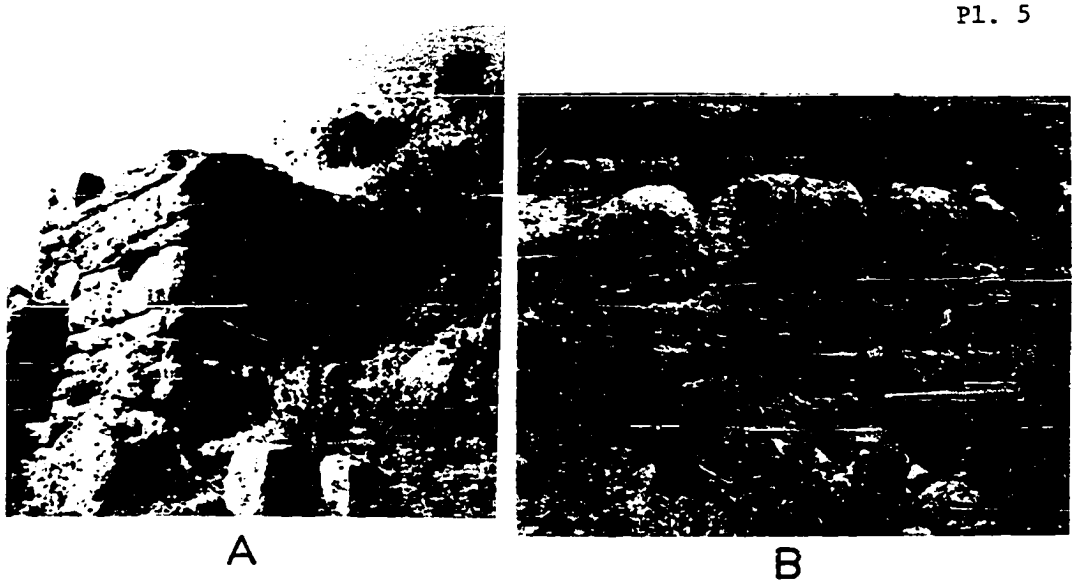

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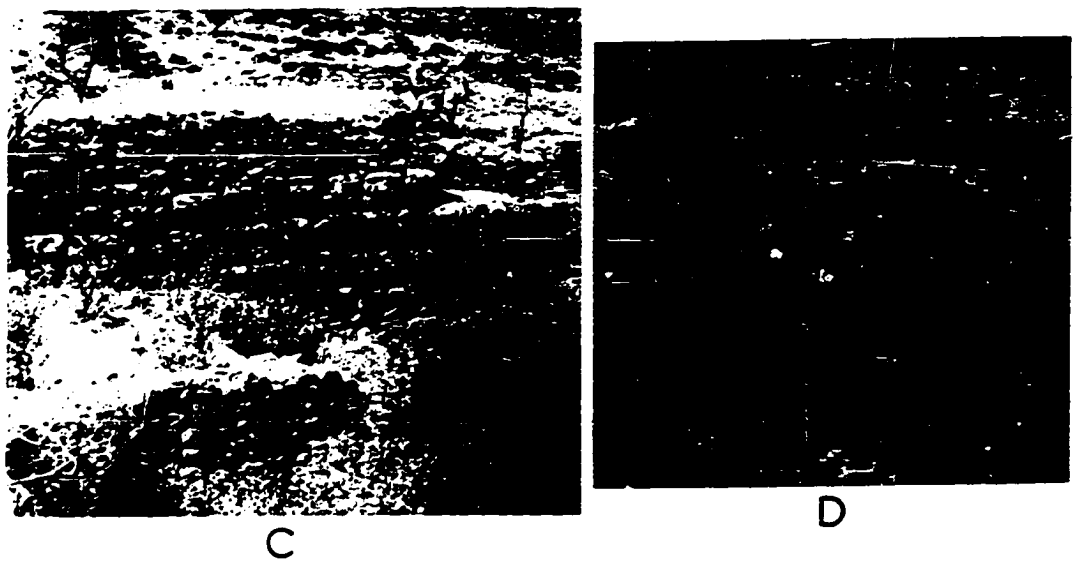

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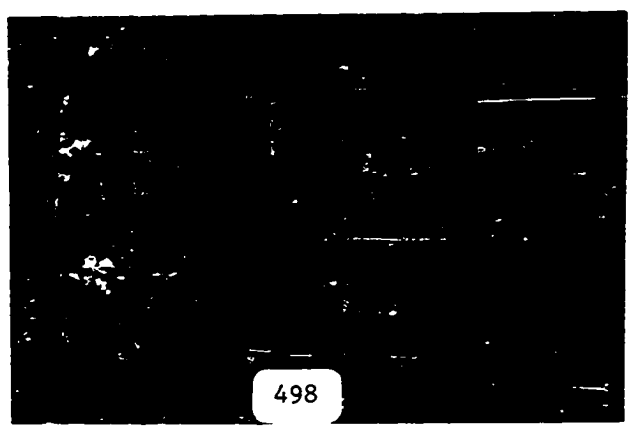

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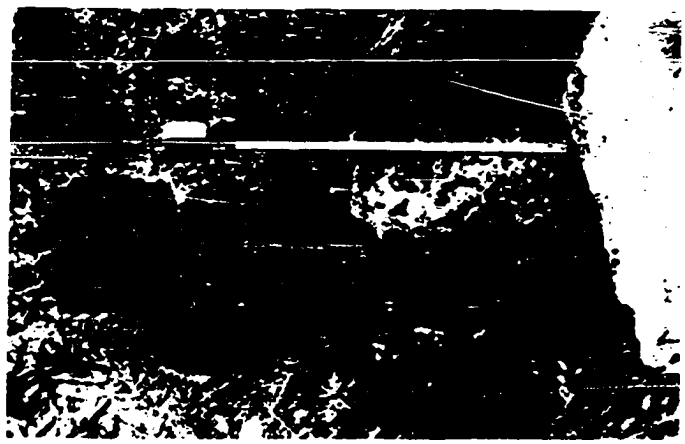

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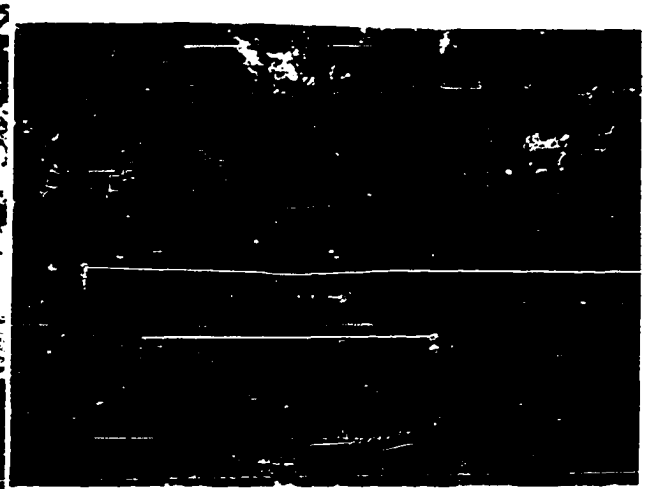

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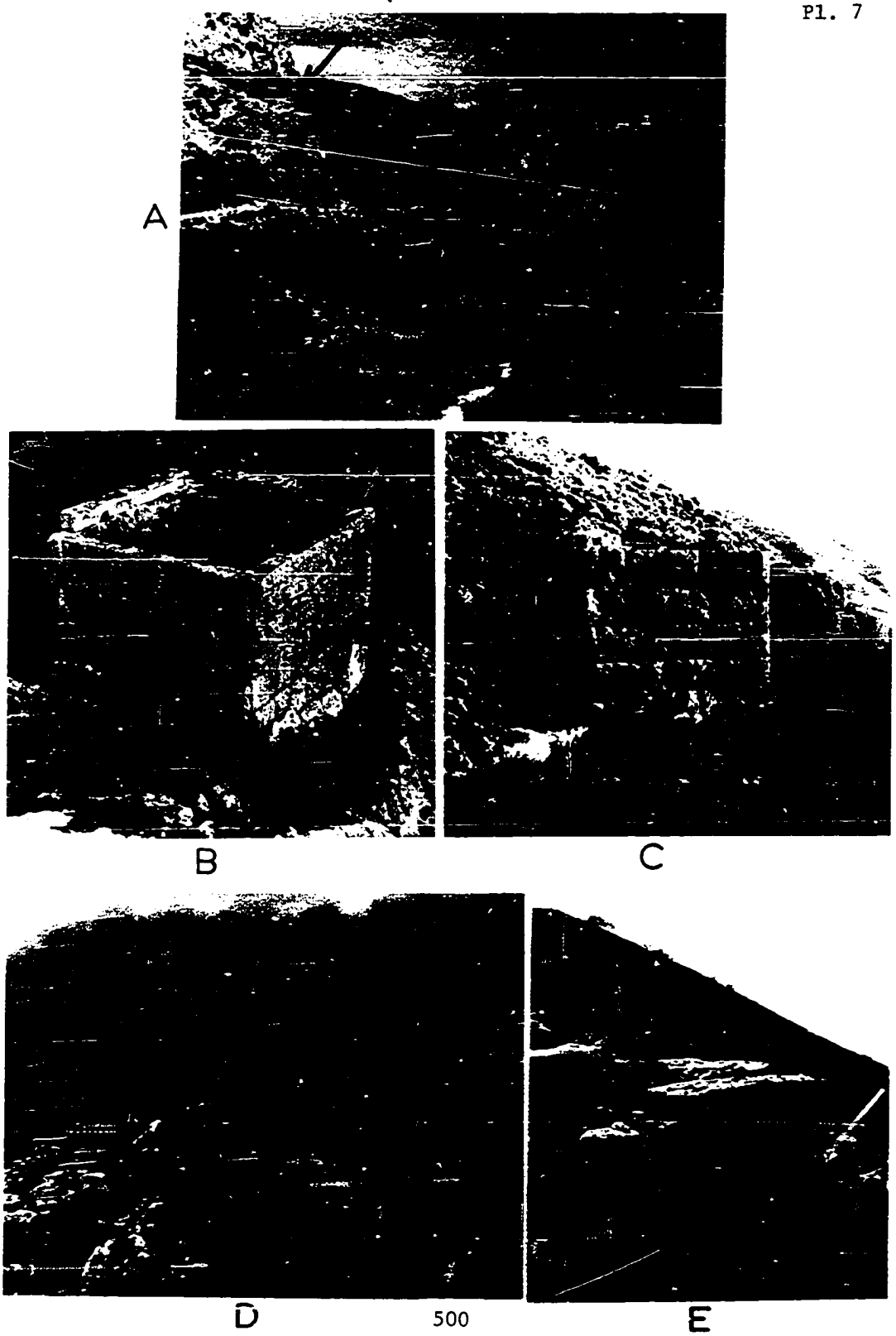

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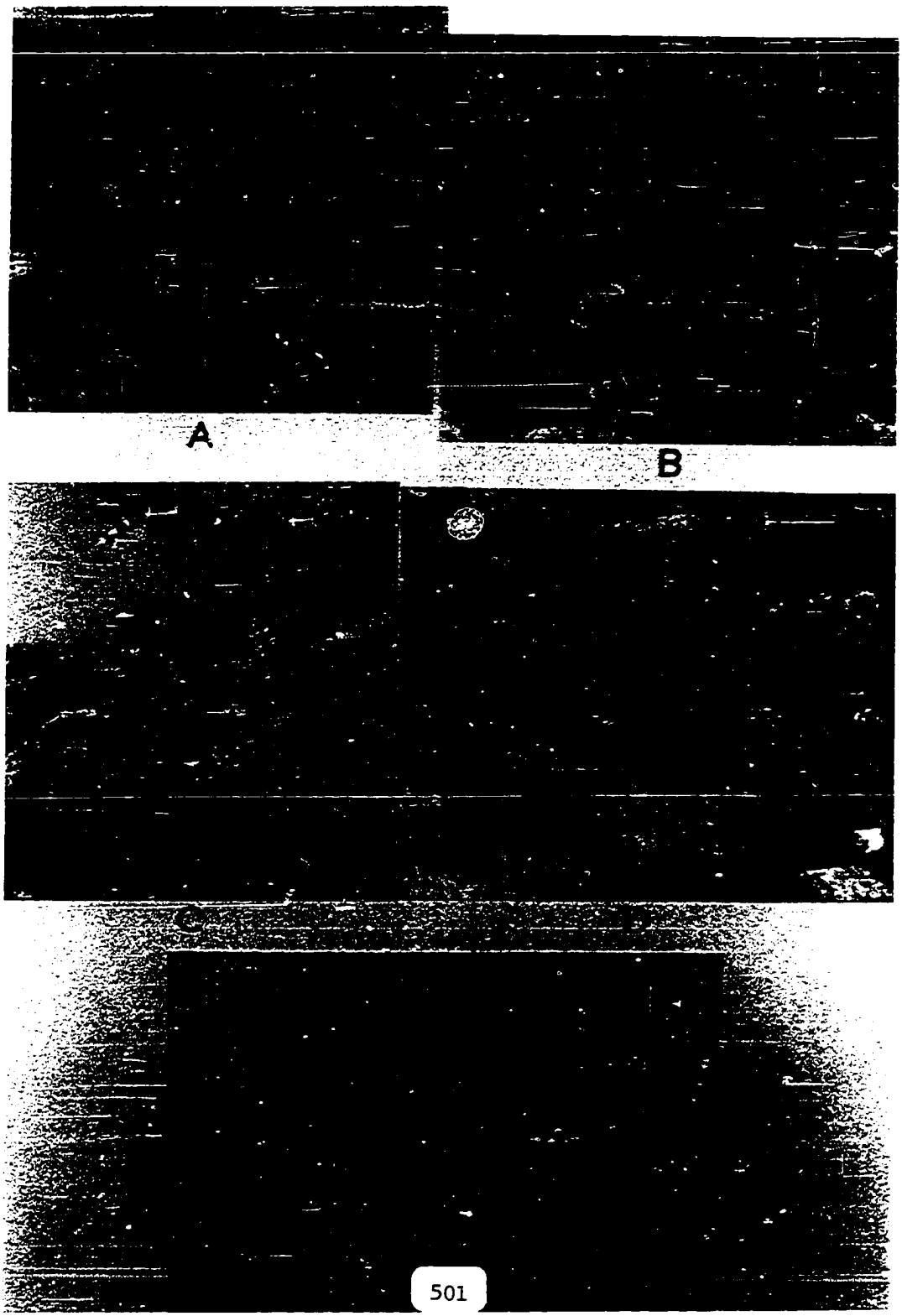

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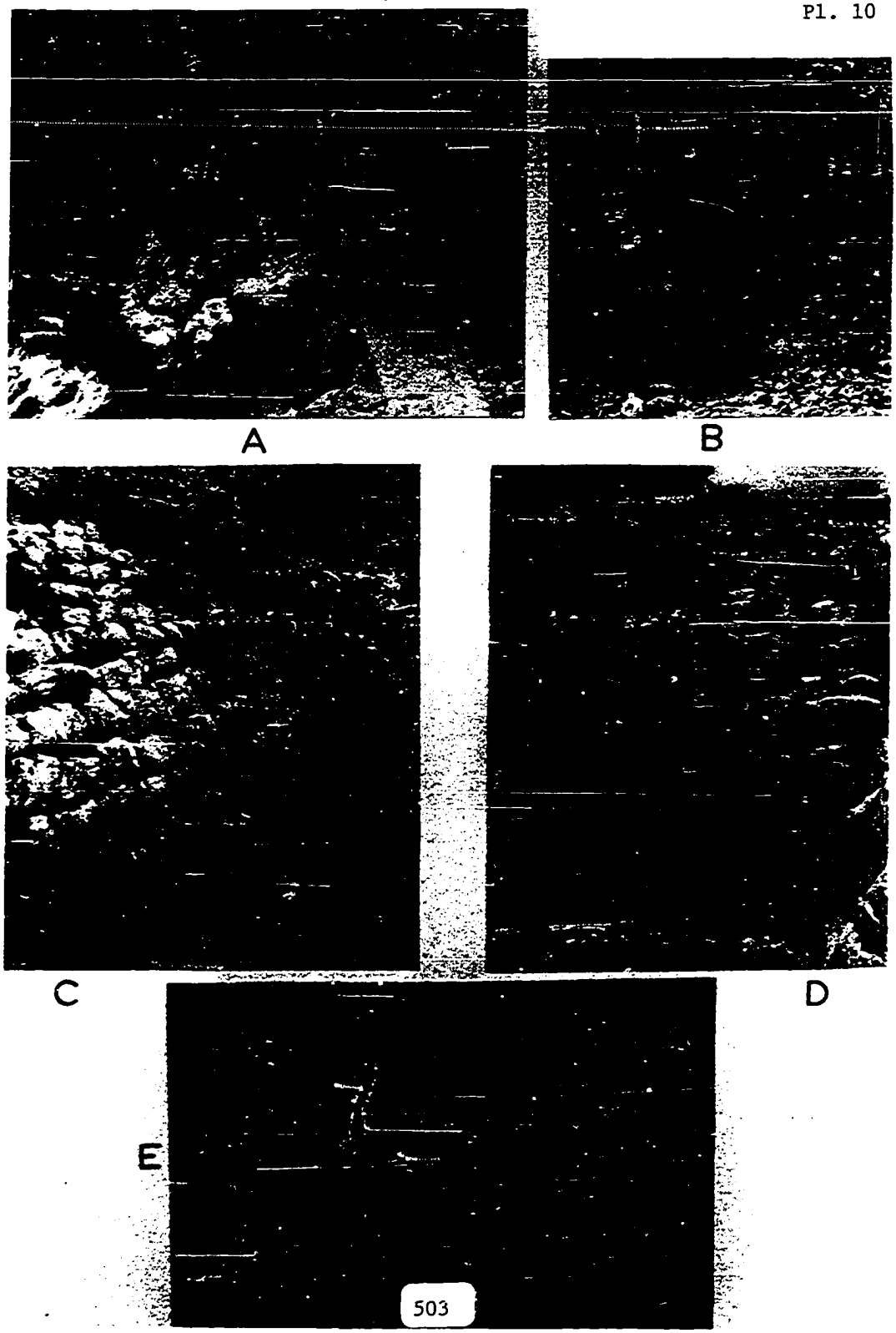

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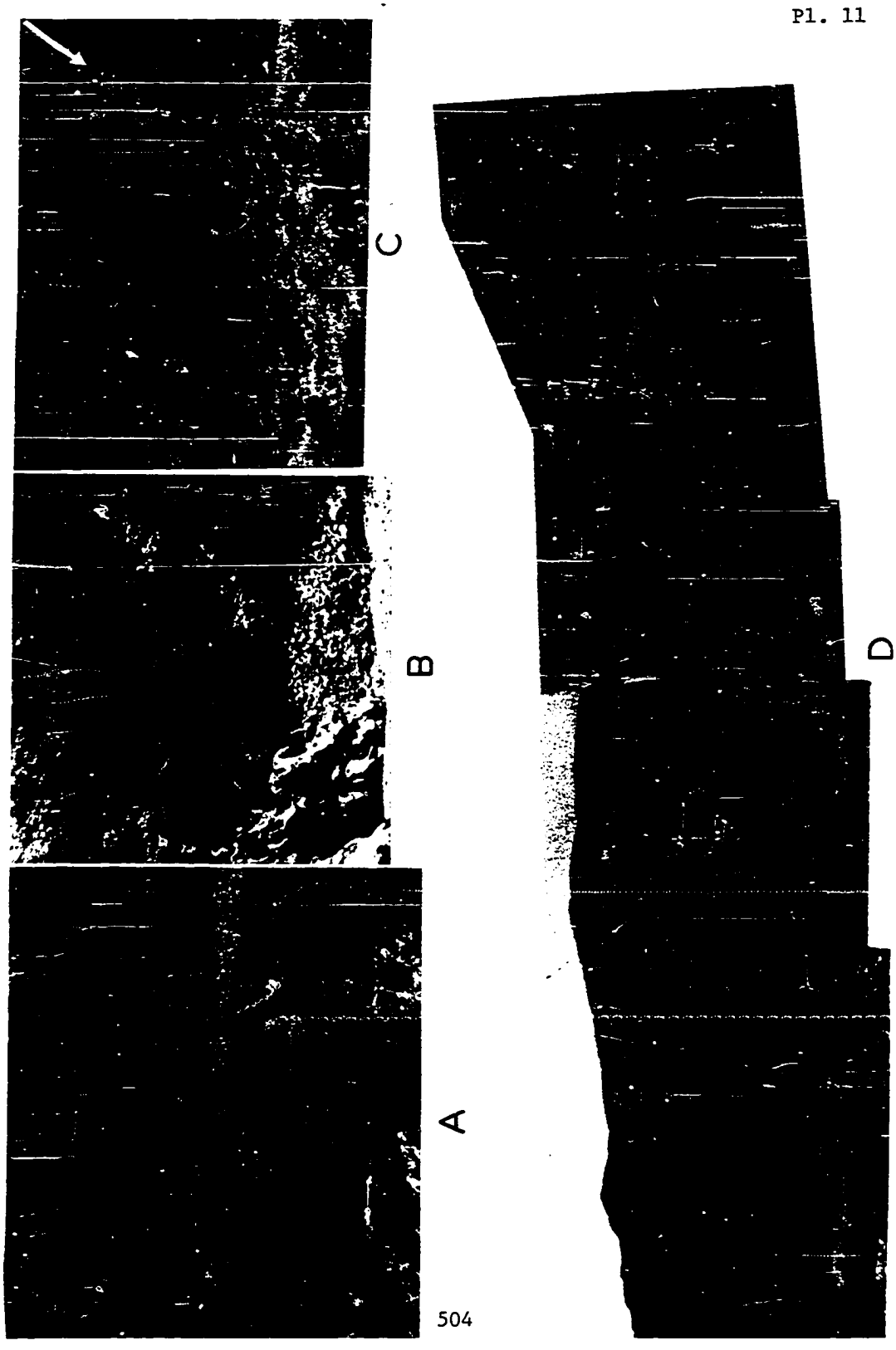

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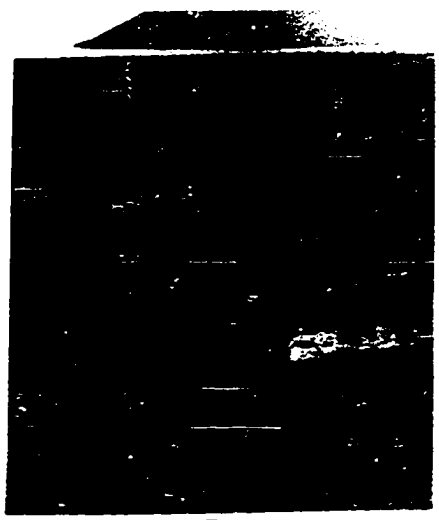

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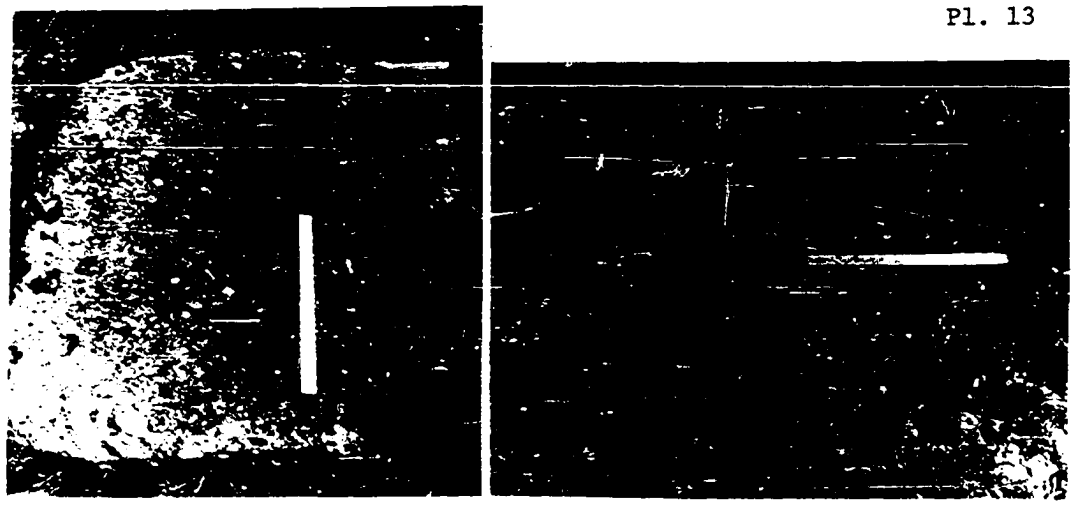

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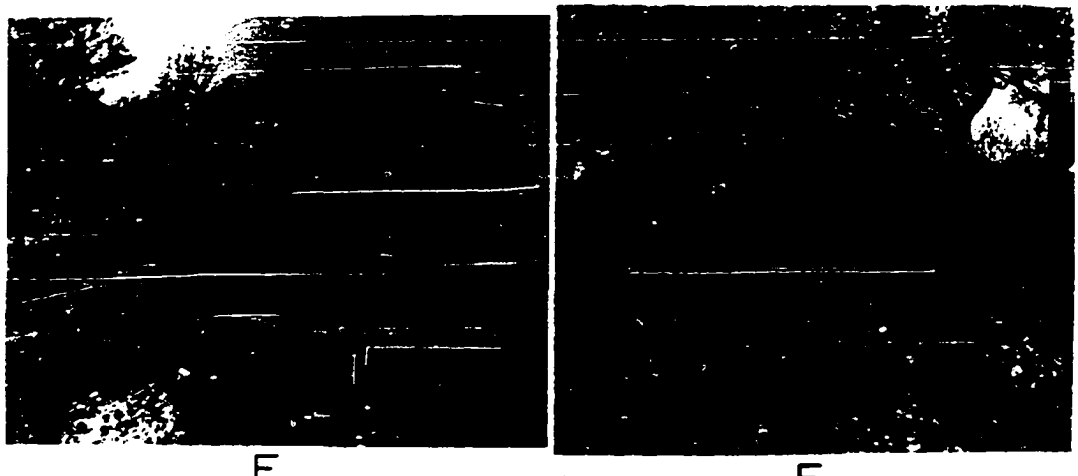

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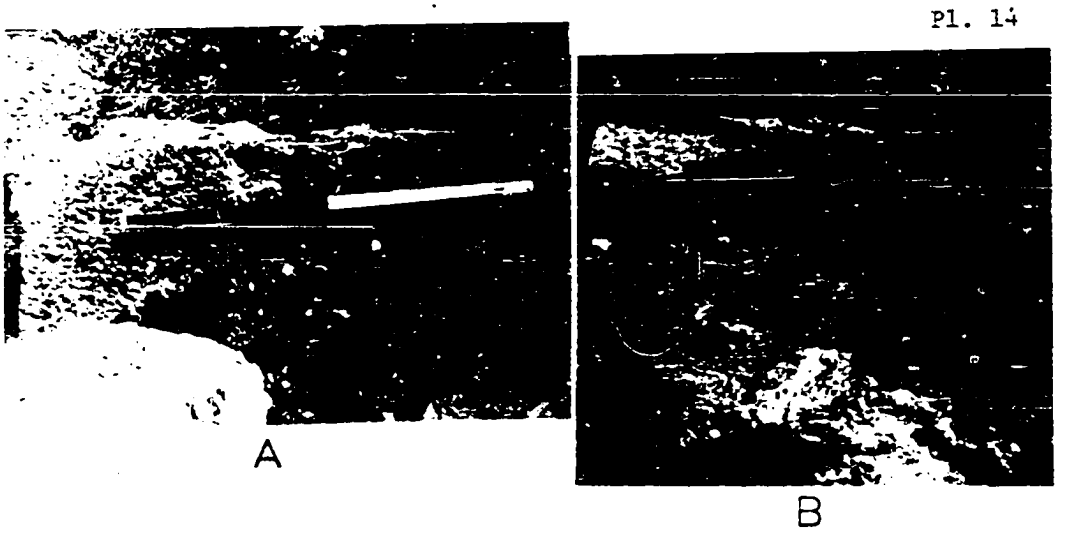

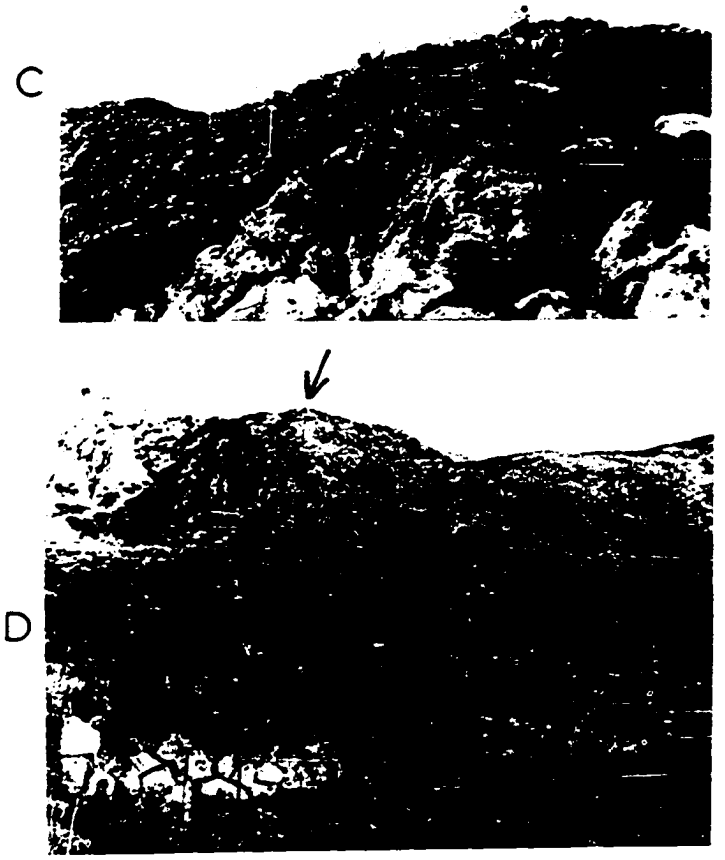

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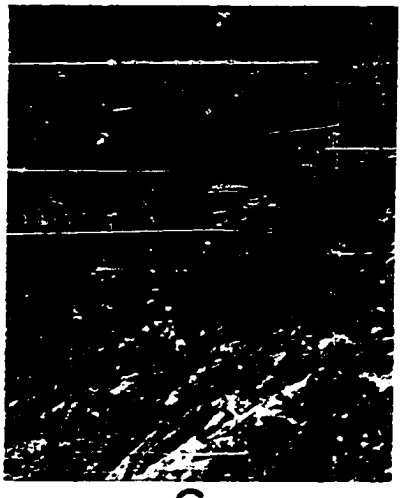

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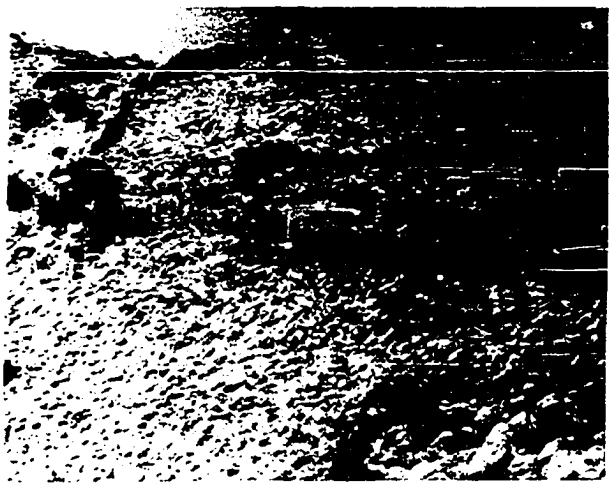

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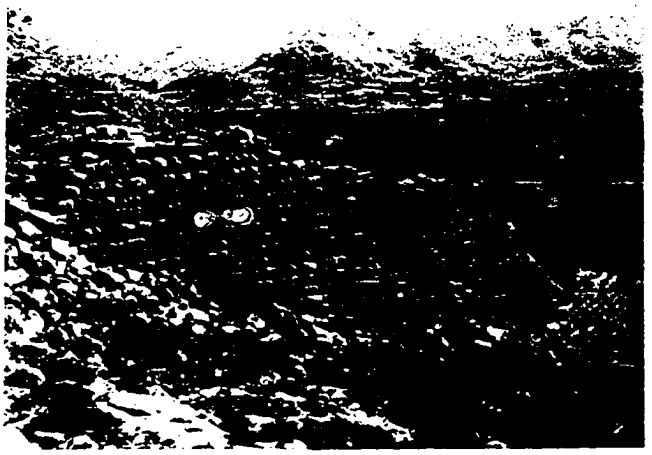

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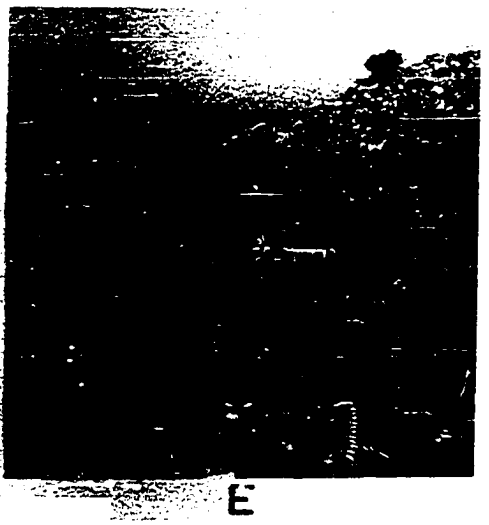

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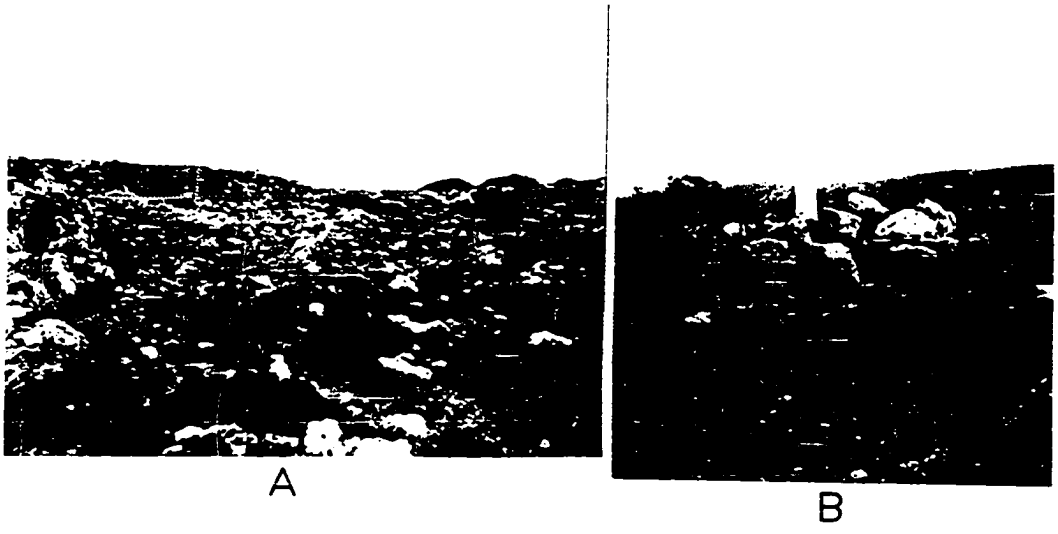

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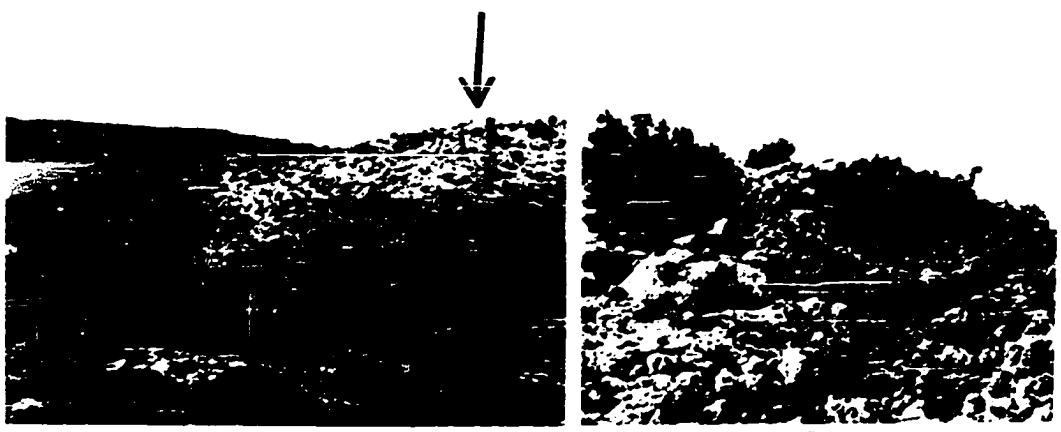

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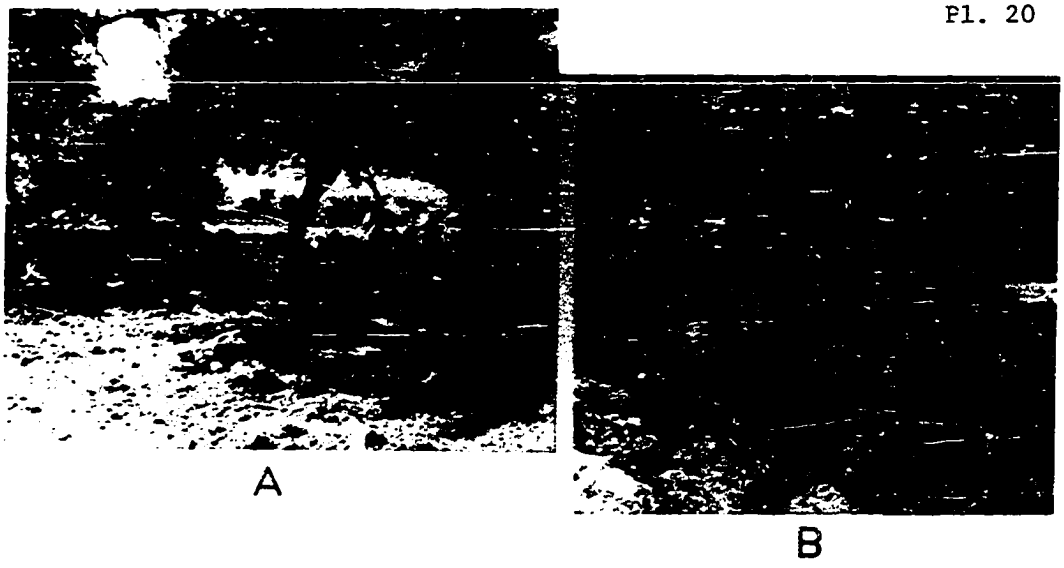

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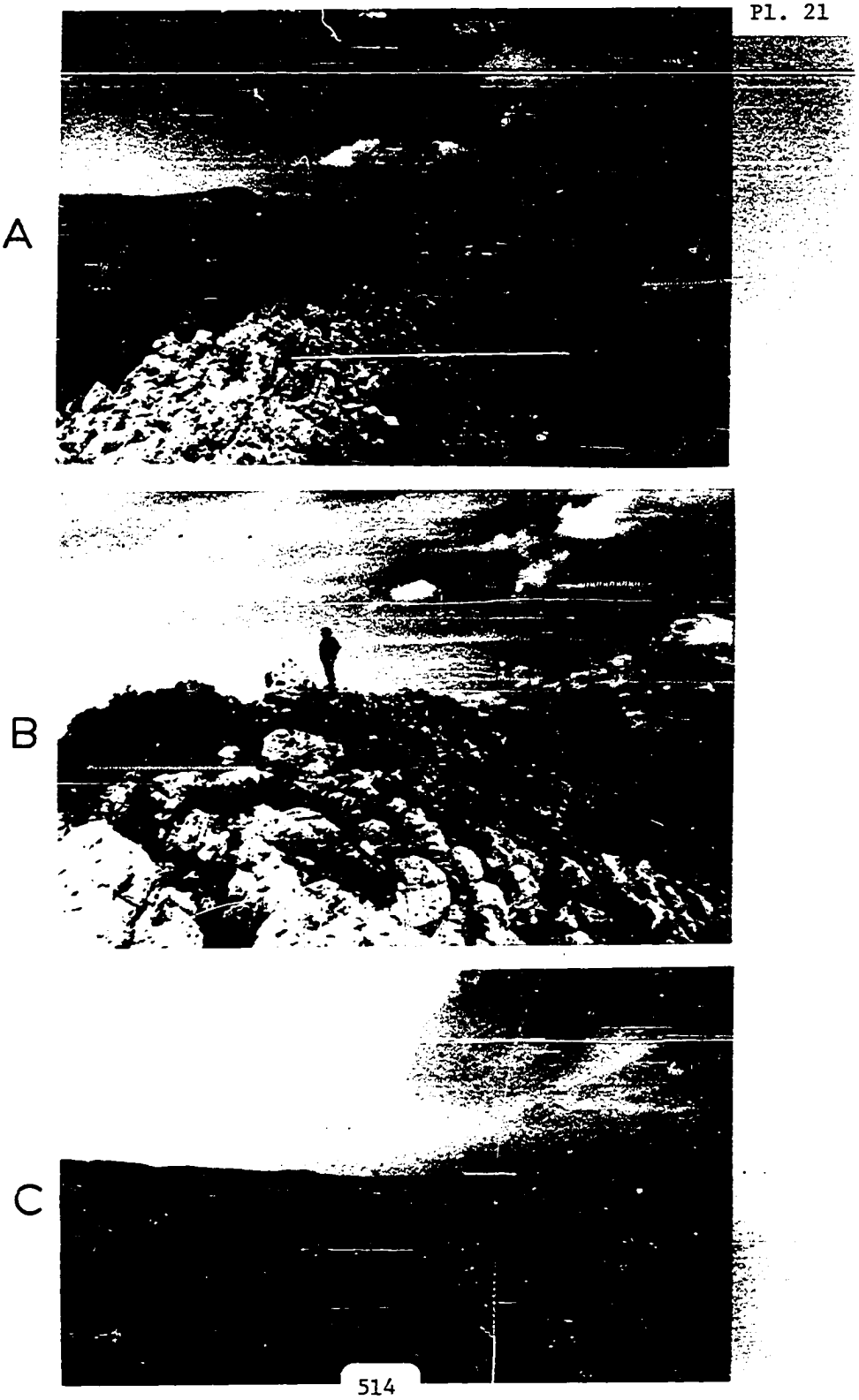

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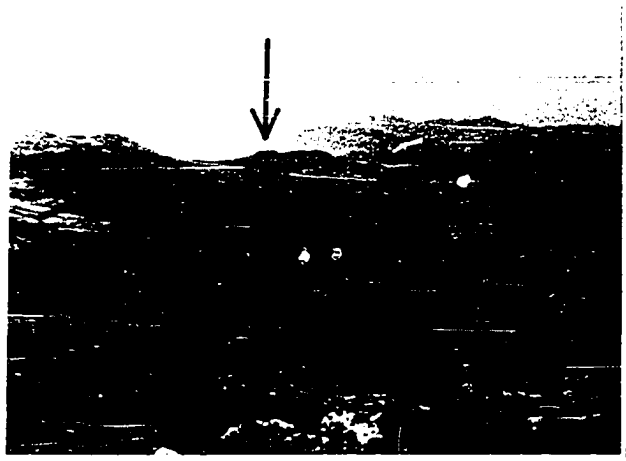

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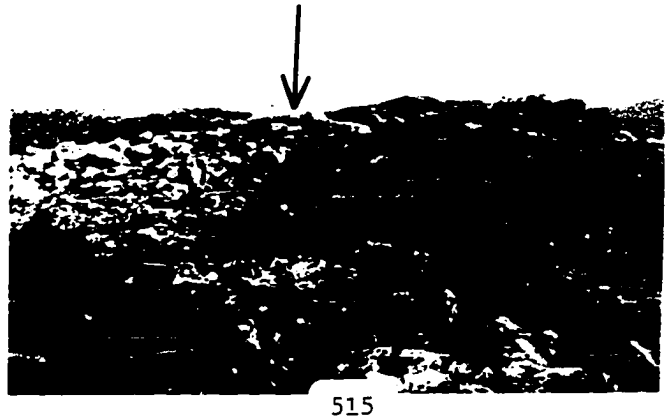

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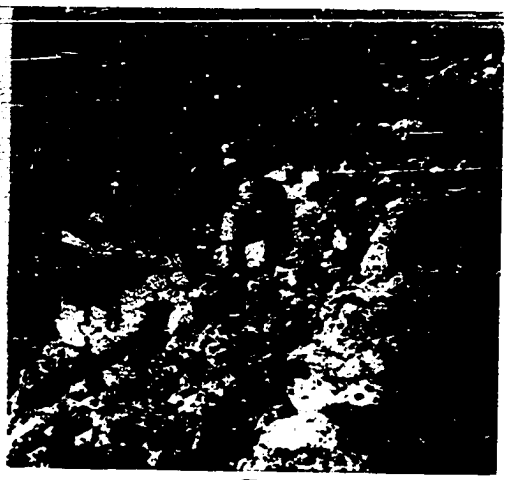

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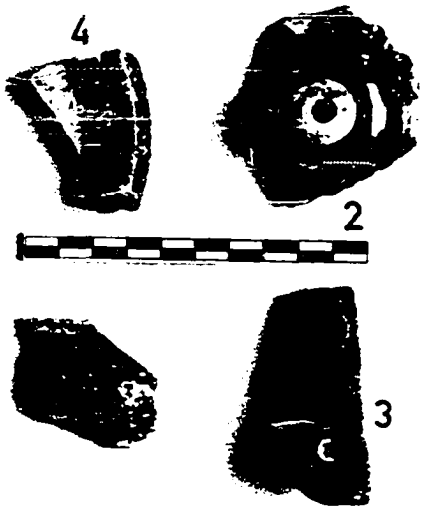

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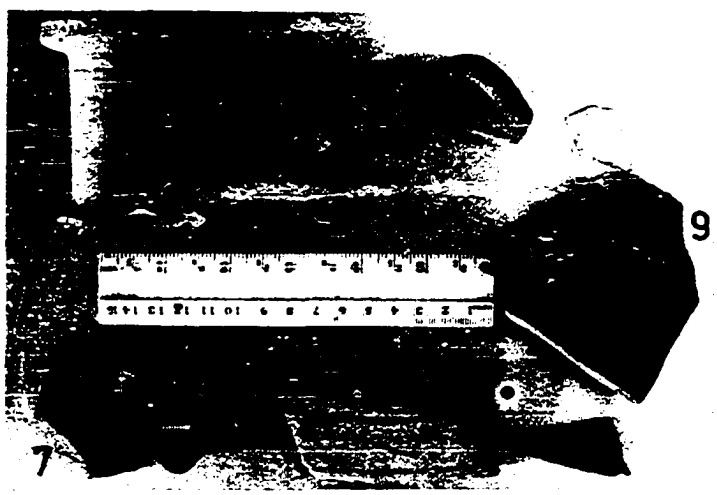

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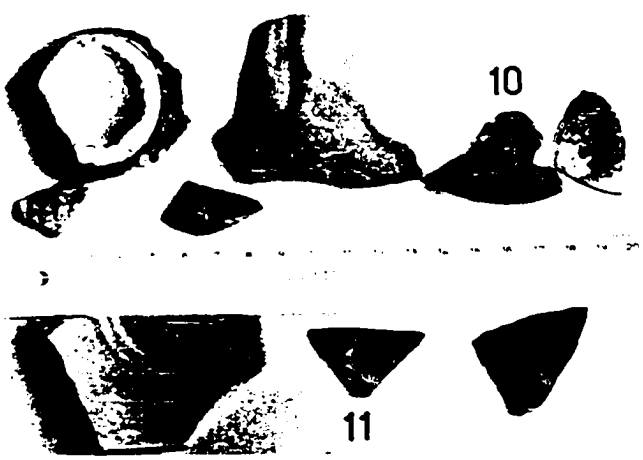

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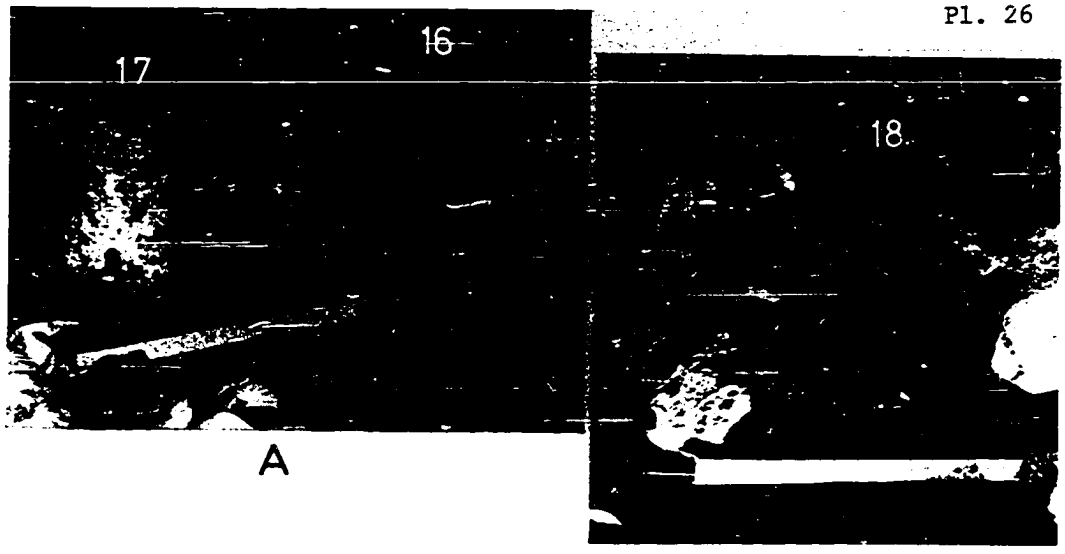

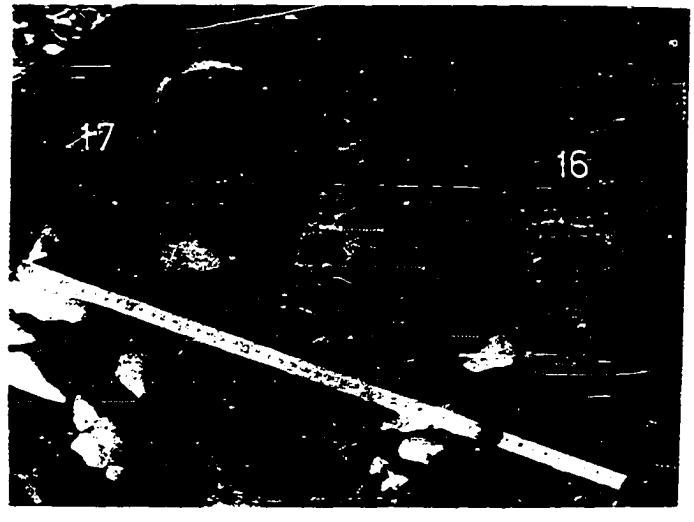

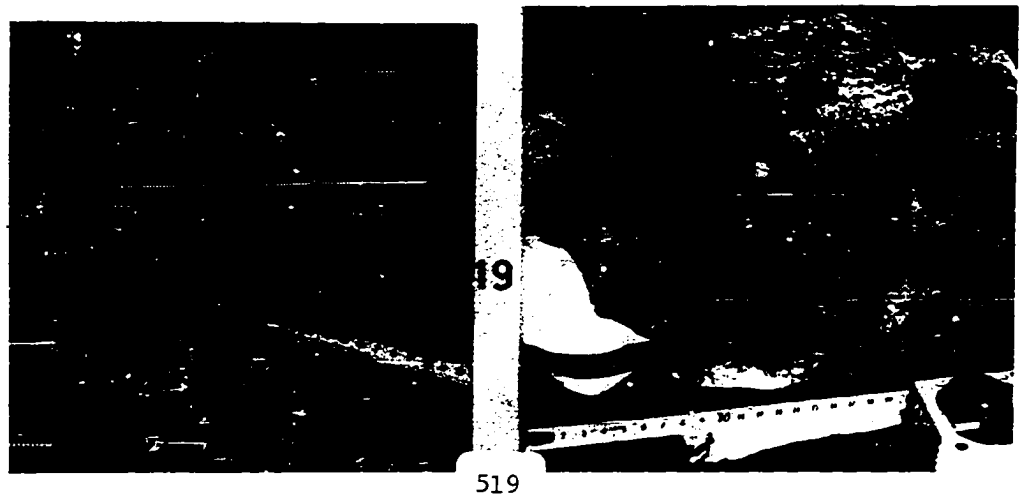

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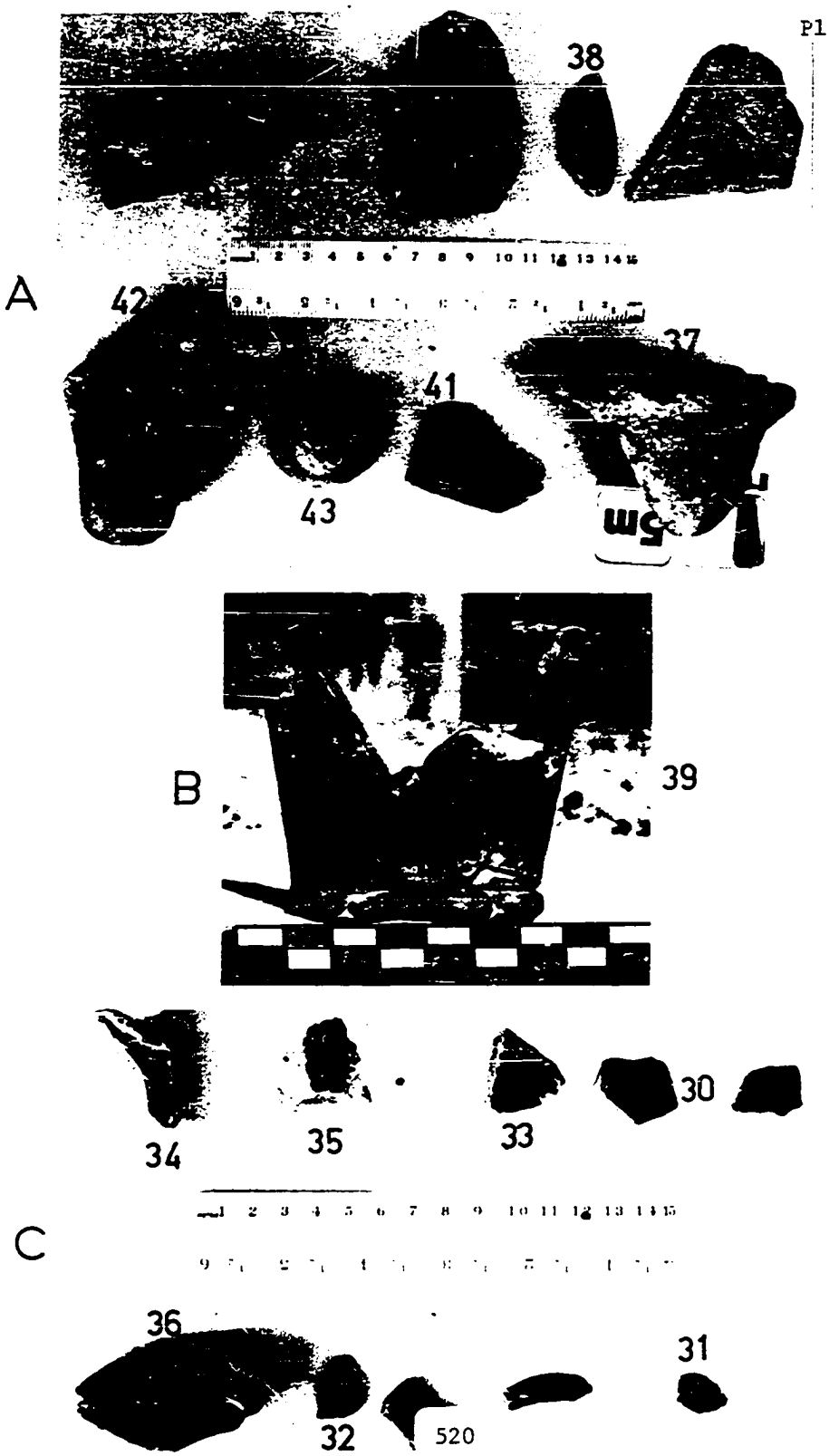

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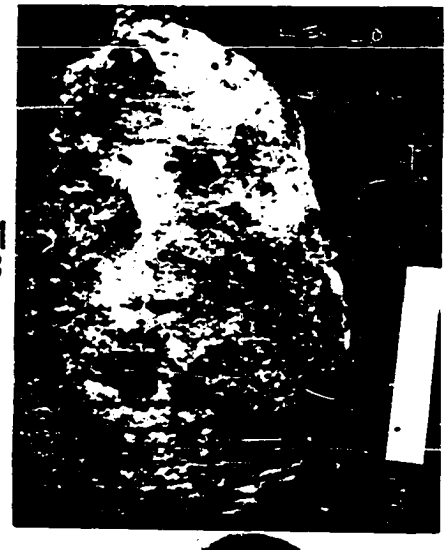

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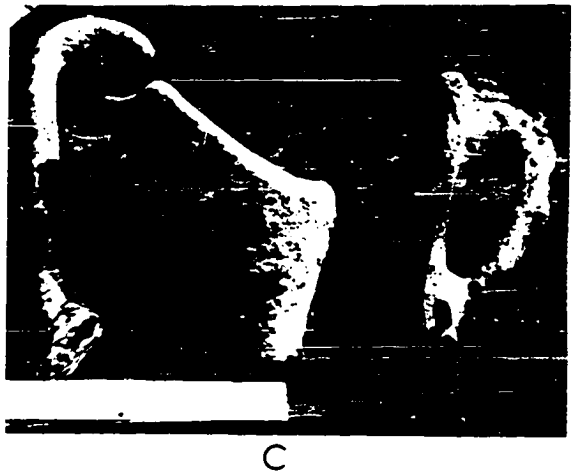

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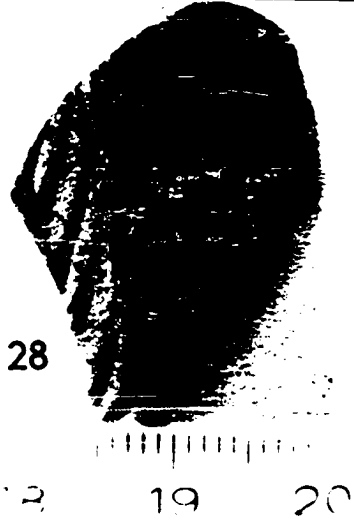

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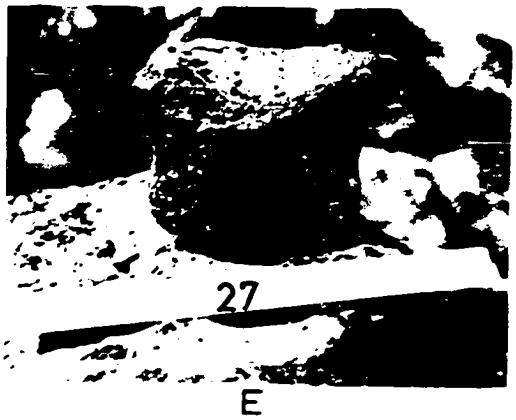

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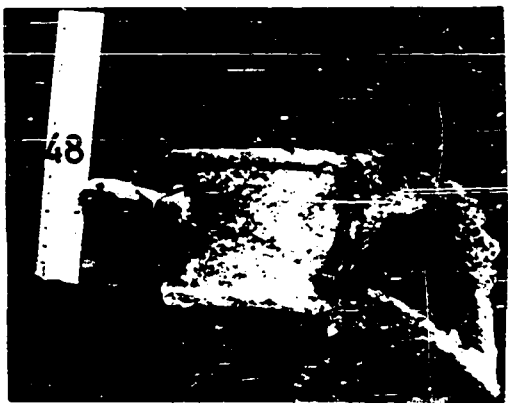

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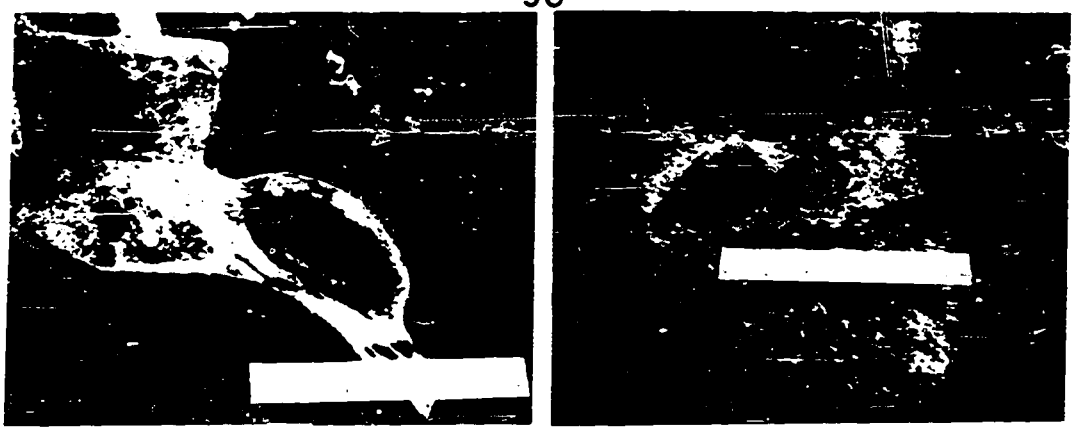

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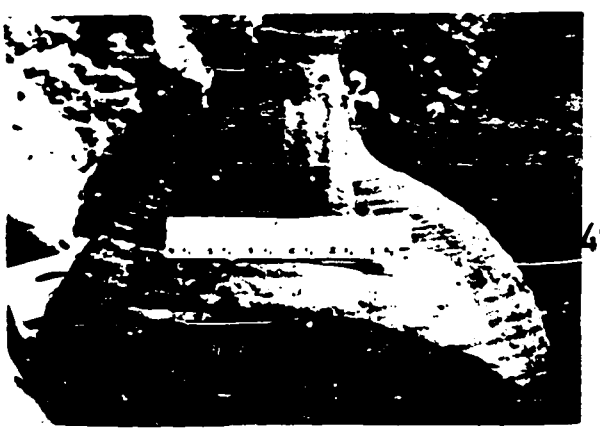

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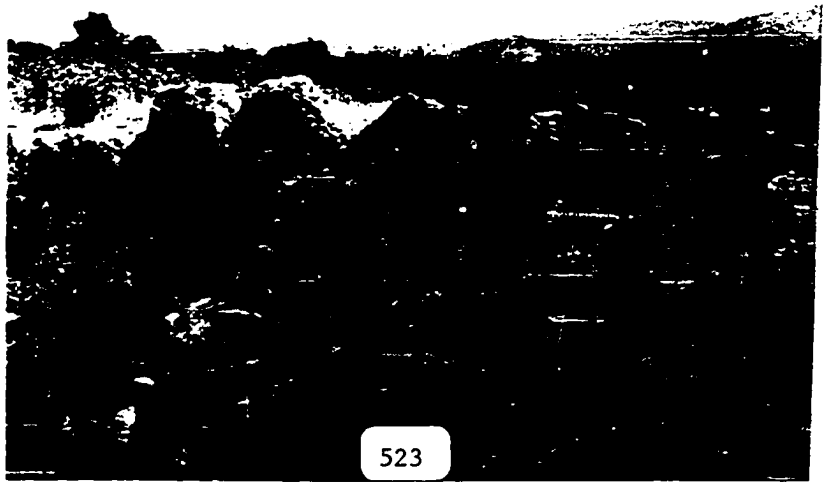

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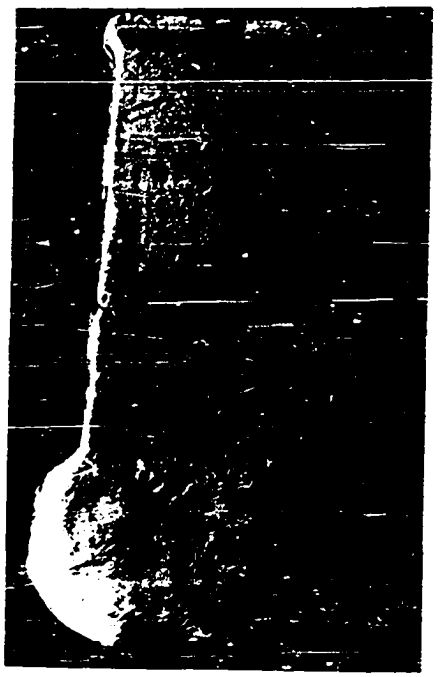

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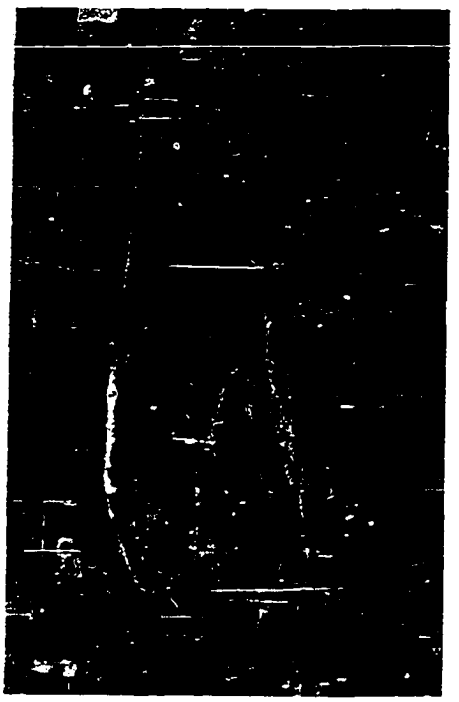

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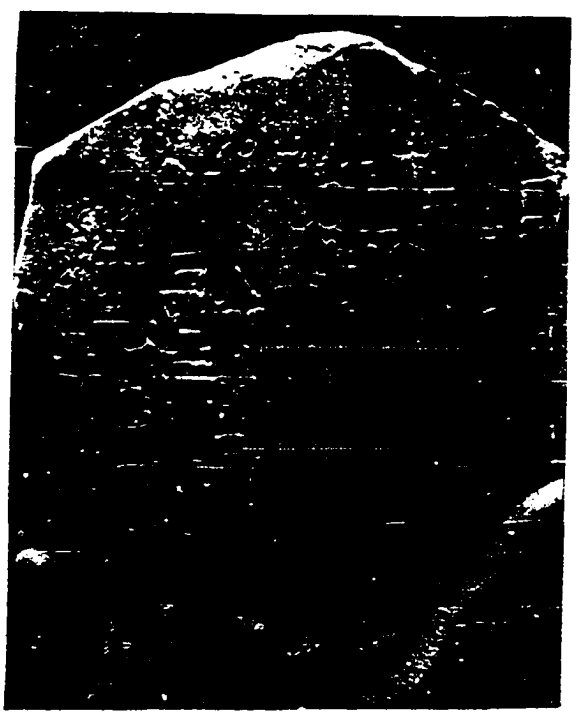

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Fig. 49

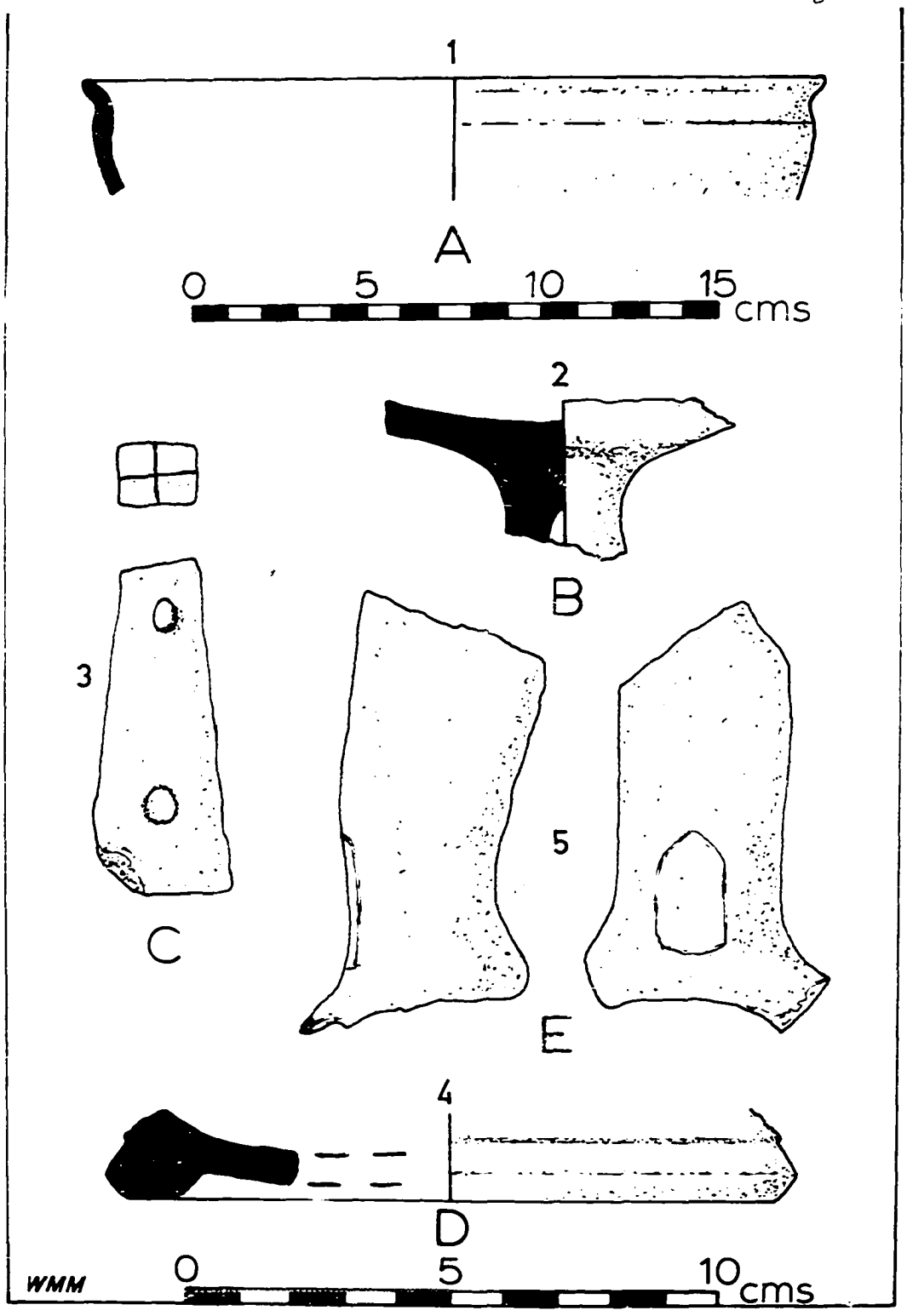

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Fig. 50

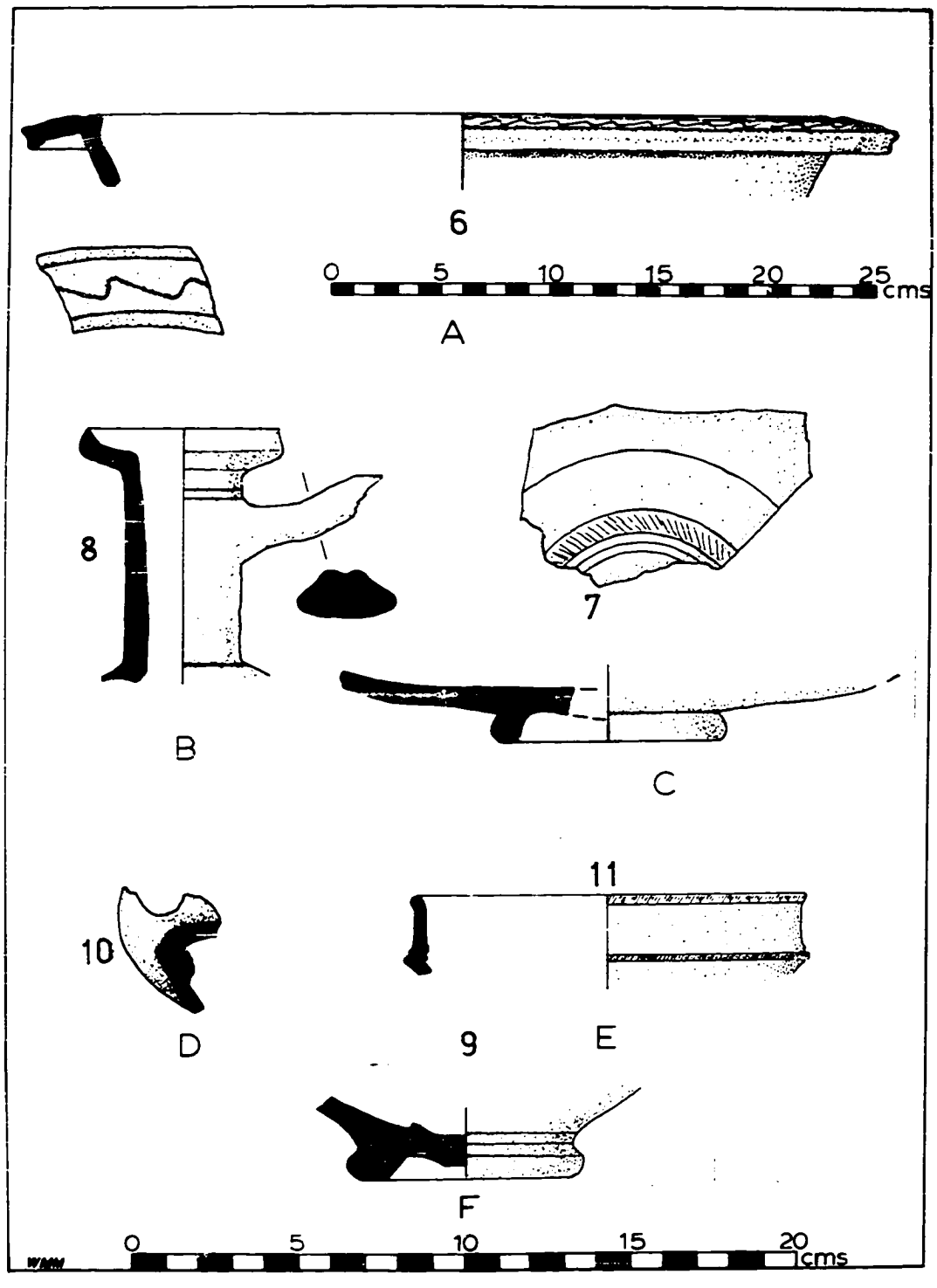

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Fig. 51

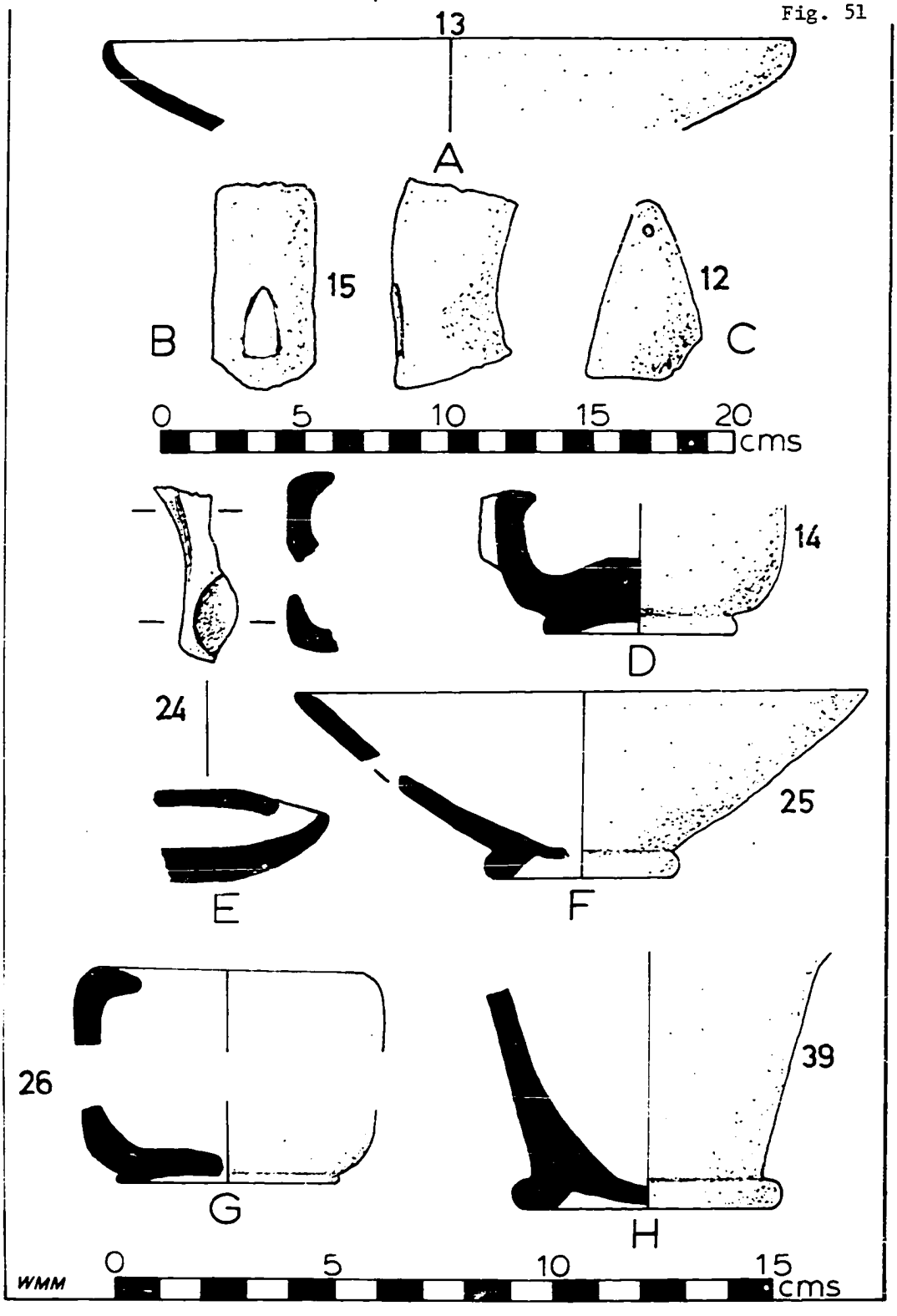

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Fig. 52

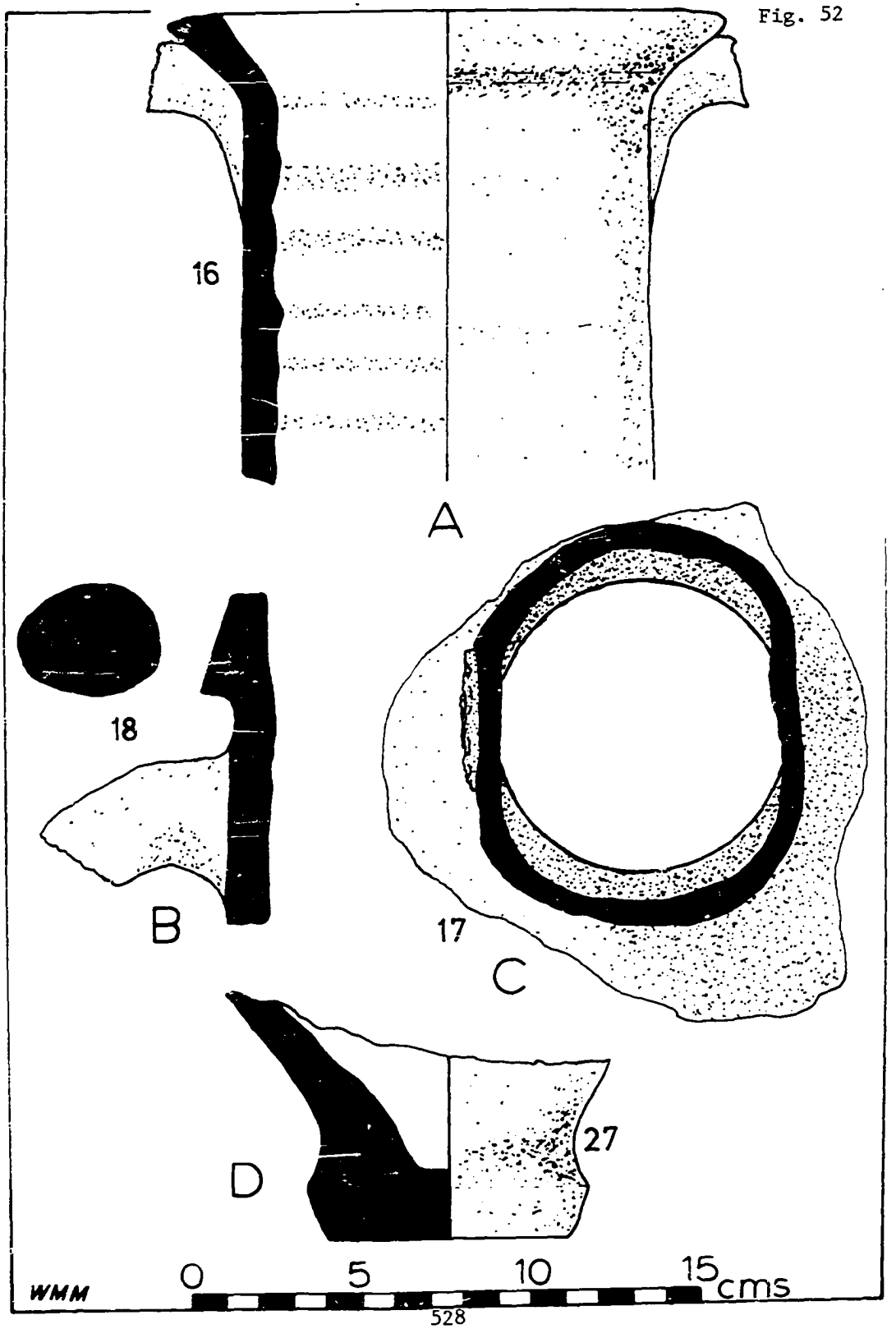

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Fig. 53

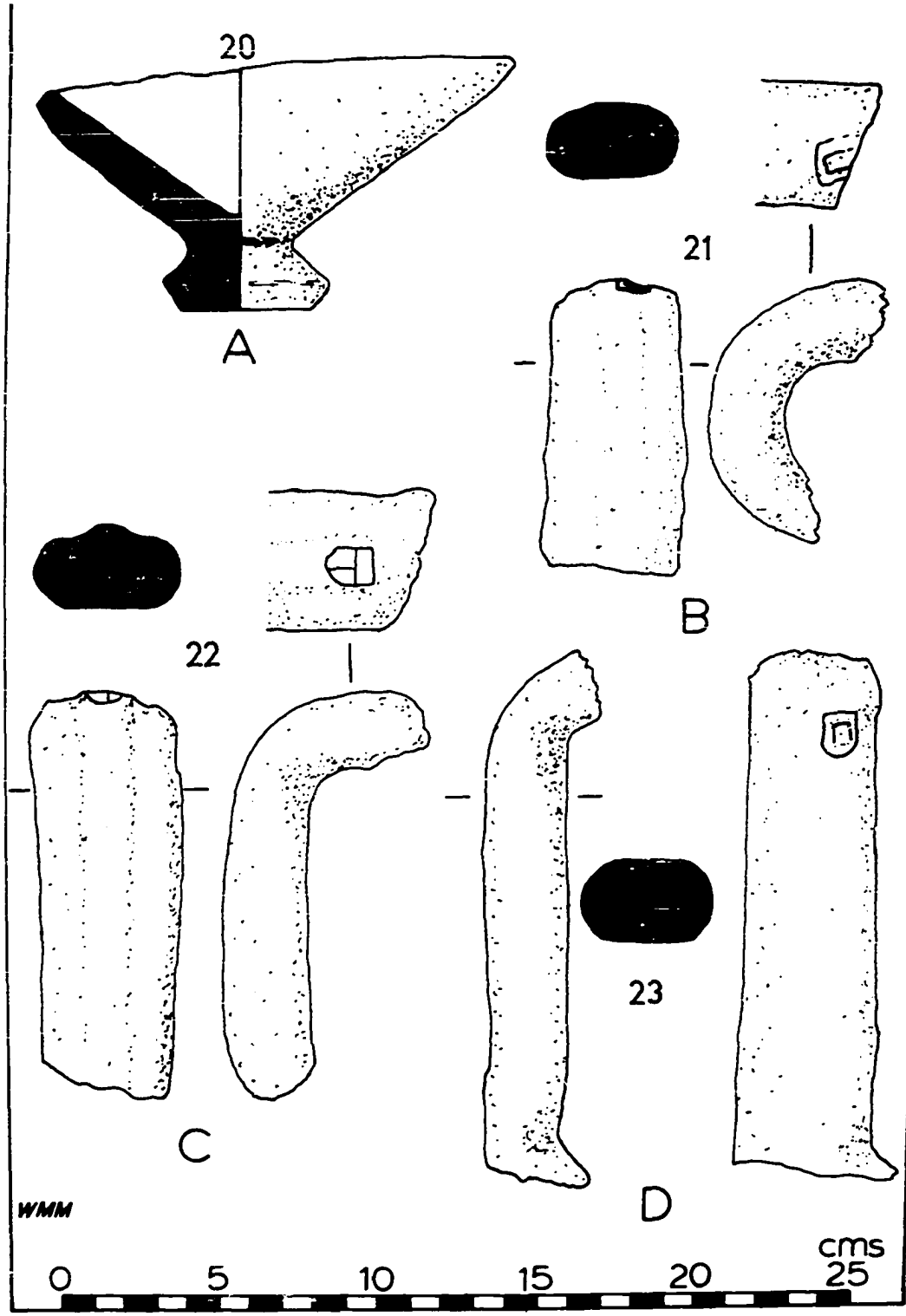

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Fig. 54

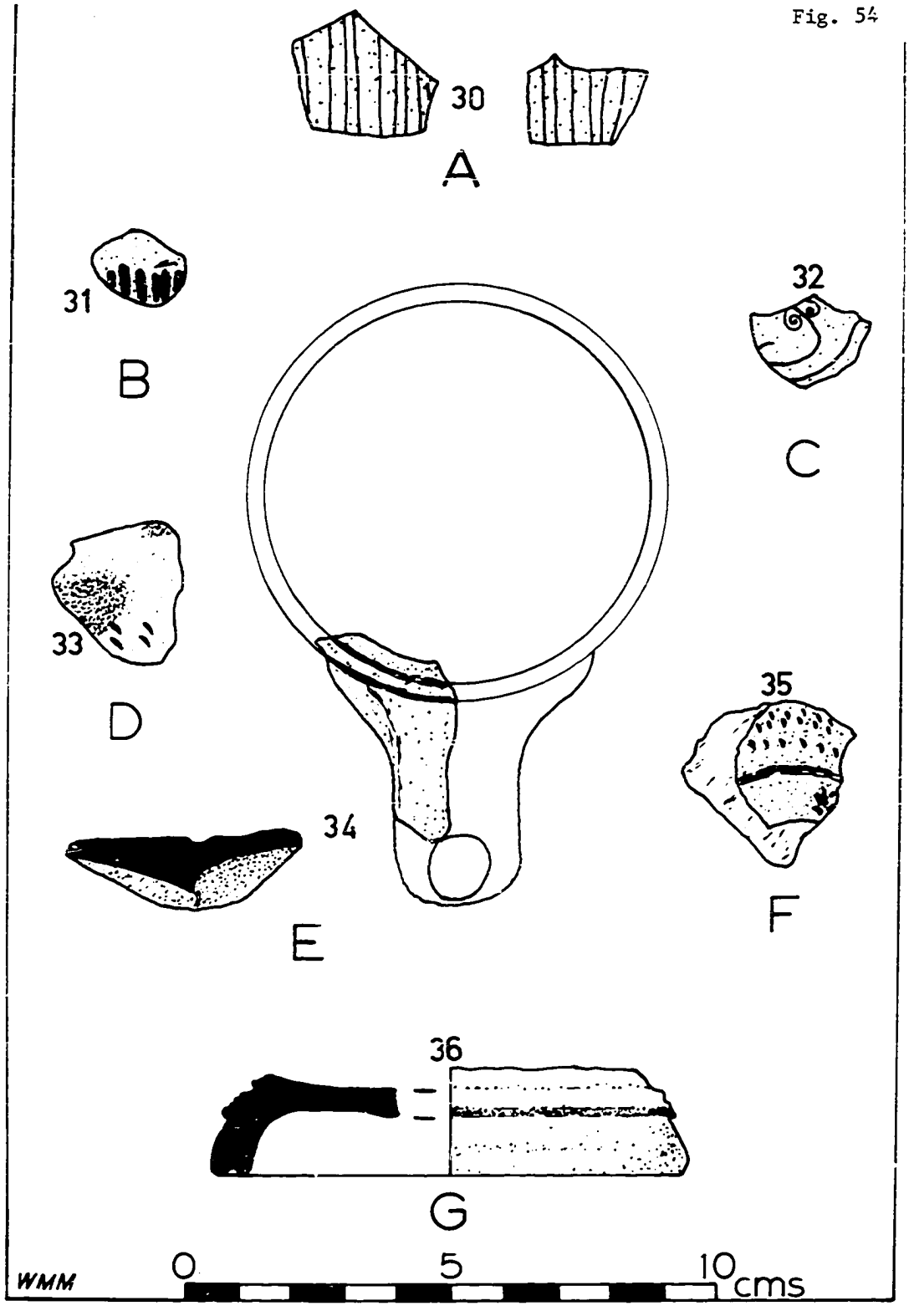

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Fig. 55

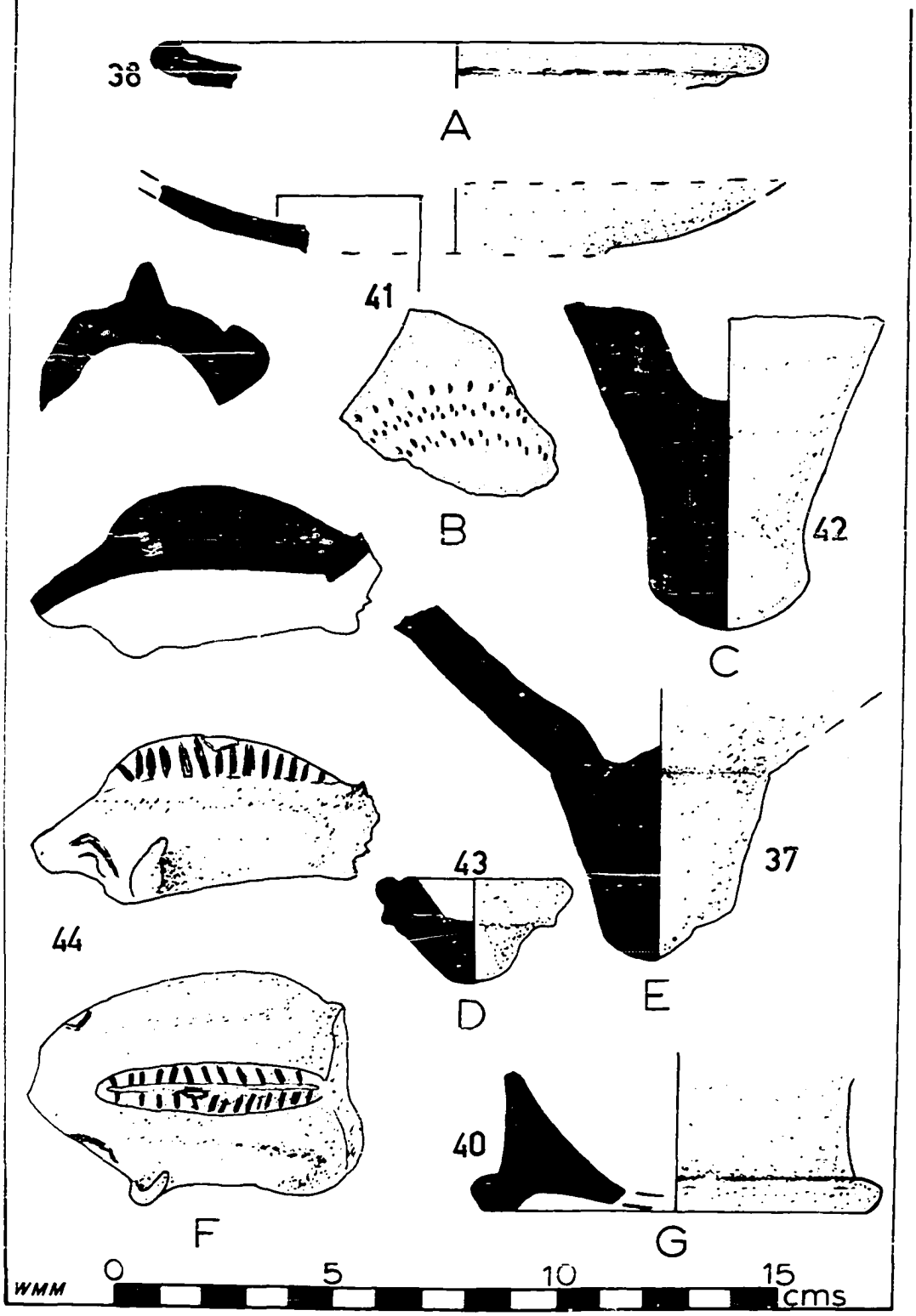

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Fig. 56

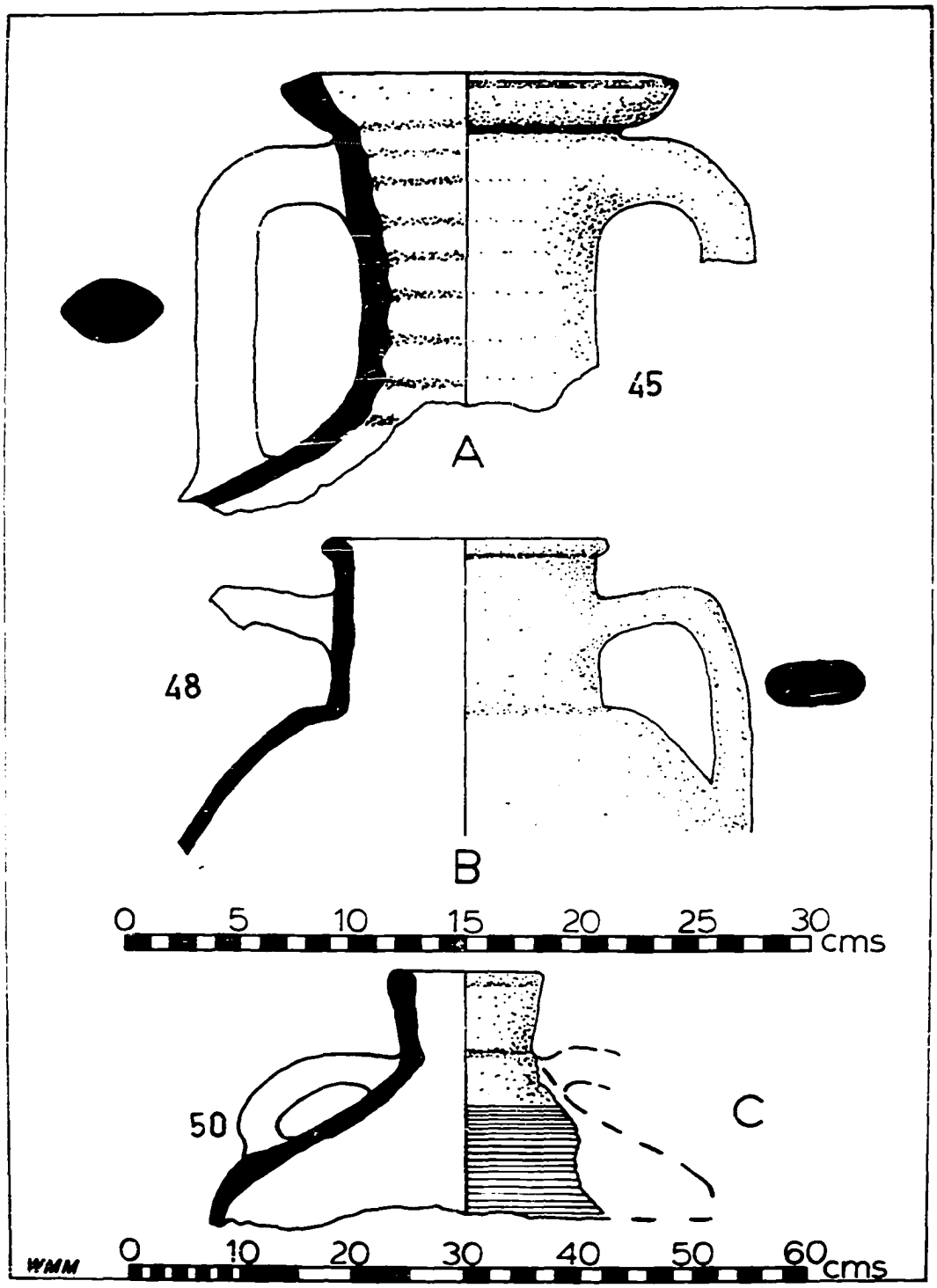

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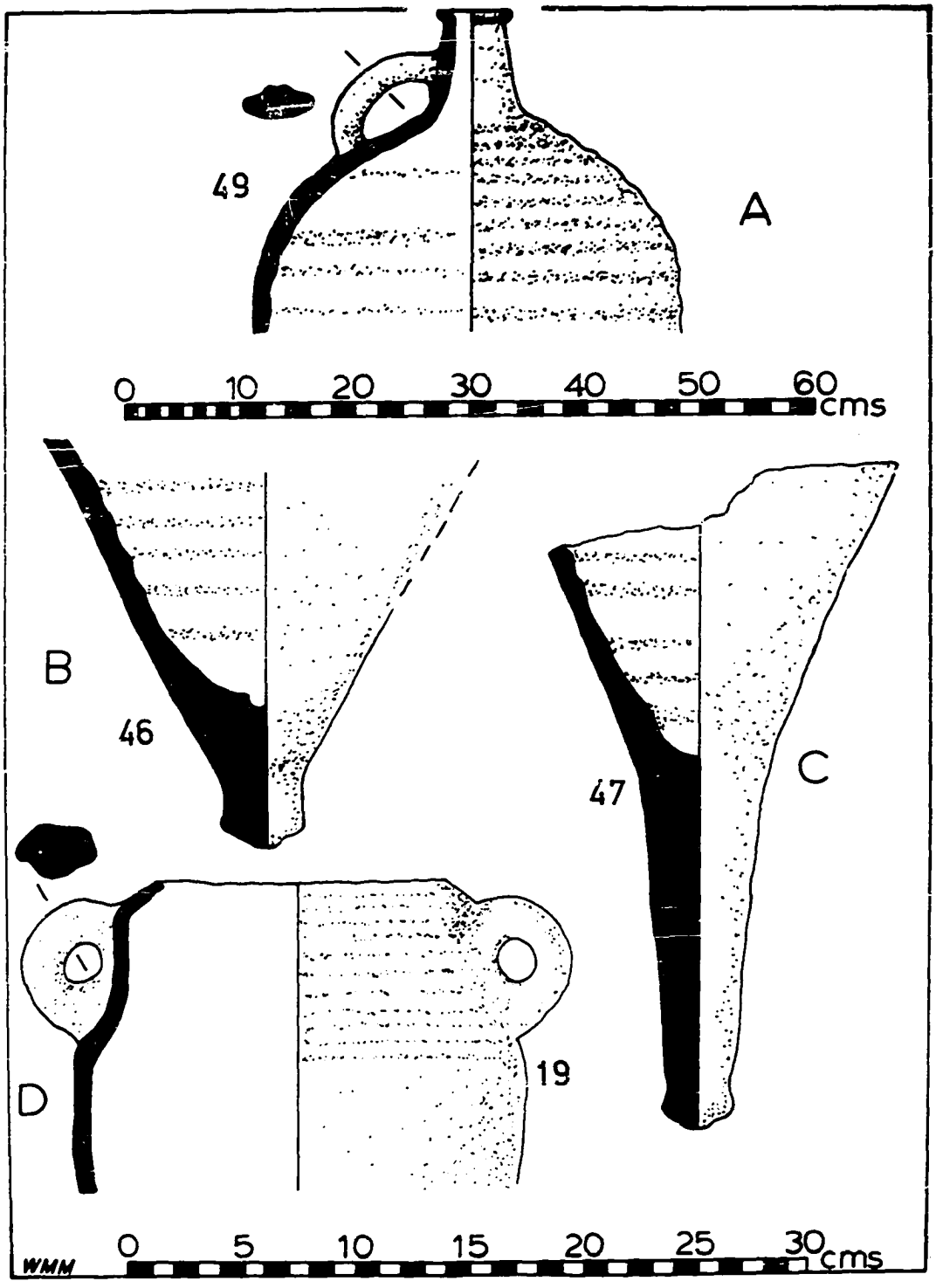
Fig. 57



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INDEX

Acheloos River 18, 20, 22, 46, 315, 326.

Aemilius Paullus 358.

Agesilaos 112-13, 155, 156, 170, 304 ff., 310-11, 317.

Agia Sophia (Basilica in Mytikas Valley) 104, 119, 129.

Agia Sophia (Chapel near Peratia) 185.

Agia Triadha (Chapel in Mytikas Bay) 116, 119.

Agios Athanasios 121.

Agios Georgios (fortress at) 256.

Agios Iannis (Church at Peratia) 185.

Agios Ioannis (Chapel of) 253.

Agios Constantinos (fortress) 252-53, 256.

Agios Nikolaos (town of) 160-61, 175, 255.

Agios Pandeleimona 55 ff., 68, 288, 344, 449.

Agios Vasilios (Thyrreion) 121, 133, 177.

Agrinion 112, 132, 322.

Agron 332.

Aiolis 280.

Aischron 357.

Aitolia, Aitolians 90-91, 103, 124, 141, 200, 287, 312 ff., 319 ff., 325, 326 ff., 332, 336, 338, 341 ff., 346 ff., 472.

Akarnan 284.

Akra Dhoukaton 412.

Akra Skilla 272, 274.

Aktion (Cape) 16, 266.

Aktion (site) 17, 134, 162, 175, 176, 208, 211, 254-55, 266 ff., 362.

Alexander II of Epiros 326, 328, 330, 338.

Alexippa 150, 179.

Ali Pasha 267, 270.

Alkmaion 284, 289, 294.

Alyzeia 70, 79, 82 ff., 104, 106 ff., 118, 120, 123, 124, 148, 171, 177, 179, 203, 285-86, 288, 298, 307, 309, 313-14, 329, 334, 336, 340, 360, 361, 362, 366, 367, 450, 464, 470, 475, 477, 478.

Ambrakia, Ambrakians (Ambrakiotes) 103, 105, 274, 291, 294, 295, 296, 301, 302, 321, 351, 464 ff., 479.

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Ambrakian Gulf 272, 347, 486.

Amphiareos 284, 294.

Amphilochian Argos, Argives 103, 285, 289, 292 ff , 301.

Amphilochos 294.

Amphytrion 280.

Anaktorion 17, 103, 134, 177, 201, 212, 221, 266, 271, 272, 273, 284, 285, 291, 298, 302, 309, 329, 334, 335, 337, 338, 339, 340, 360, 464, 470, 475, 476.

Anaxaretas 438.

Anemas (Peratia) 184.

Anicius, L. 358.

Antigonos Doson 335, 340.

Antigonos Gonatas 319, 330.

Antiochos III 349 ff., 359.

Antirrion 250.

Aphaia (Temple at Aigina) 158, 160.

Apollo (Aktian) 265, 266 ff., 273, 317, 335, 337, 338, 361, 363.

Apollonia 468, 479-80.

Aratos (the Sikyonian) 217, 223.

Archondochori 77, 82, 83, 87, 329.

Ares 89, 90.

Argos 289, 308.

Artemis 80, 150, 179-80.

Artemis (Leukophryenis) 344.

Artemis (Limnaia) 52.

Artemis (Soteira) 42.

Artemita 23, 27, 30.

Asklepios 89.

Asopios 189-90.

Aspro Potamo (Acheloos River) 25.

Astakos 61, 66 ff., 82, 113, 123, 131, 148, 170, 203, 244-45, 277, 278-79, 280, 286, 288, 298, 301, 334, 336, 340, 344, 356, 360, 361, 367, 438, 449, 470, 477, 478.

Astakos (modern) 76, 79.

Astakos Bay 16, 48-49, 55, 74 ff., 174, 344.

Athena 89, 146.

Athenai 46-47.

Athens, Athenians 171, 216, 261, 291 ff., 300, 307, 312, 314, 316, 346.

Atilius, A. 356.

Augustus 246, 270, 273, 363, 367.

Aurelios Kyriakos 441.

Boiotia, Boiotians 98-99, 104, 308.

Bosporos 250.

Cape Kamilafka 121.

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Cape Krithote 68, 81.

Cape Parathira 199.

Cape Tourkovigla (ancient Krithote) 76, 80.

Chepharas 439.

Cheronisi 194.

Chremas 357 ff., 366.

Chrysovitsa 78, 81, 279.

Cicero 120, 176, 246, 263, 362, 413.

Cleopatra Beach 165, 181.

Delos (ancient mole) 237.

Demetrios Poliorketes 323, 325.

Demosthenes (Athenian general) 113, 200-201, 205, 222, 296 ff., 302, 303.

Diogenes 357.

Dionysios 129.

Dioryktos 190-91, 219, 250, 256, 285.

Dyrrhachion 362, 468 ff., 480, 486.

Echetos 277.

Echinades Islands 22, 23, 27, 55, 355.

Eleusis on Thera (archaic mole) 237.

Epaminondas 309.

Epidauros 308, 475.

Epiros, Epirotes 90-91, 141, 194, 216, 223, 274, 281, 308, 330, 332, 335, 338, 349, 351, 354, 442-43, 472.

Eretria (archaic mole) 237.

Erysiche 24, 30, 46.

Euarchos 301.

Eupalinos 98.

Flamininus, T. Quinctius 348-49, 353, 354, 359.

Fort Alexandros 256.

Fort Peki (Teki) 256.

Fort Punta 270.

Fulvius Nobilior, M. 355.

Georgaleika Road 112.

Glaukos 357.

Glosses 82, 91 ff., 126.

Gylippos 258.

Hellespont 250.

Herakles 89-90, 119-20, 124, 130, 132.

Herakles (sacred harbor of) 118.

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Hippokrates 52.

Histiaia (archaic mole) 237.

Hygeia 89.

Illyria, Illyrians 90-91, 105, 194, 281, 335, 341, 483.

Ionian (Sea) 141, 307, 347, 366, 370.

Iphikrates 307.

Italy 279, 334, 486.

Ithaka 187, 219, 244, 278, 279, 282.

Ithoria 46, 336.

Kakavoula (Pirgos on the Sklavaina Road) 176.

Kalamos Island 83, 86, 88, 115, 129, 132, 208, 244.

Kalydon 280, 287.

Kampylos River 319.

Kassander 316, 319 ff., 324-25.

Kasteli at Phagia 195 ff., 222, 453.

Kastellaki (Mytikas Valley) 77.

Kastellaki (near Archondochori) 78.

Kastri above Agios Athanasios 135 ff., 153, 208, 210, 212, 223, 451.

Kastri Lithies 176, 192 ff., 197, 202, 204, 206, 220, 221, 453.

Kastri (Mytikas Valley) 87 ff., 193, 208, 223, 331, 450.

Kastro at Agios Georgios 186 ff., 453.

Kastro at Agios Pandeleimona see Agios Pandeleimona

Kastro on Kokkino Stephani, Trikorpho see Kokkino Stephani, Trikorpho

Kastro Xylopigadho 163-64, 452.

Katochi 32, 49.

(Kato) Kandhila 79, 106-107, 120, 121, 130, 133.

Kechropoula (ancient Palairos) 73, 121, 131, 138, 143, 153, 155, 175, 176, 189, 245, 260.

Kenchreai 236, 237.

Kephallenia, Kephallenians 208, 210, 244, 278, 280, 287, 292, 316 336, 476.

Kerkyra, Kerkyraians 258, 285, 289, 316, 323, 325, 339, 347, 354, 362, 464 ff., 477, 479 ff.

Kleftes 4, 83.

Kleopatra of Epiros 105, 308.

Klytos 350-51.

Kokkino Stephani, Trikorpho 180, 208 ff., 221, 222, 451.

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Korinth, Korinthians 188, 197, 200, 201, 228, 243, 245, 284, 286, 287, 294, 300, 302, 312, 315, 339, 361, 366, 464 ff., 479 ff.

Koronta 78, 81, 260, 279, 301, 334, 336, 340, 342, 356, 360, 464.

Kotoupa 141, 176, 215, 216, 217.

Kouretes 277.

Kynoskephalai 348, 354.

Kypselos 220.

Kyrene 105, 129, 179, 182, 313.

Kyrenia (ships) 318.

Lake Amvrakia 315.

Lakedaimonian, Lakedaimonians 170, 304, 306.

Lamia (Mt.) 161, 164, 255.

Lechaion 236.

Leleges 277.

Leukas, Leukadians 103, 105, 129, 134, 162, 173, 174, 175, 176, 182, 184, 187, 188, 189, 195, 198, 200, 201, 205, 206, 208, 210, 212, 216, 217, 219, 221, 224 ff., 274, 278, 280, 282, 284, 285, 291, 296, 313, 314, 315, 318, 323, 325, 329, 330, 334, 339, 347, 350, 354, 359, 360, 365, 413, 464 ff.

Leukas Canal 118, 129, 184, 210, 221, 224 ff., 304, 334, 413-14, 474, 477, 483, 485.

Limnaia 262, 329, 336.

Lysimachos 323, 325.

Lysippos, Lysippan 89-90, 118, 120, 124, 366.

Makedonia, Makedonians 90, 308, 312, 318, 351, 358, 366.

Marathos 61.

Marcius Figulus, C. 274.

Marcius Philippus, Q. 356.

Medion 329, 332, 335, 350-51, 354, 360.

Meganisi 244, 278.

Messenians 291, 292, 300.

Metropolis 24, 329, 334, 336, 342, 356, 360, 464, 478.

Miaouli Reef 198.

Mnasilochos 350-51.

Mnasippos 261.

Monastiraki 134.

Mt. Boumistos 78, 329.

Mt. Serekas 121, 329.

Mt. Tavros 217, 223.

Mt. Veloutsi 68, 73, 74, 77.

Mummius 262, 360.

Mytikas 52, 77, 131, 133.

Mytikas Bay 16, 74, 114 ff., 121, 132, 172, 173, 242.

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Mytikas Valley 77, 82-83, 106, 116, 129, 137, 367.

Nasos 46, 47-48, 342.

Naupaktos 261, 291.

Nerikos (Neritos) 186, 187 ff., 193, 221, 250, 256, 285, 295.

Nikolochos 307.

Nikopolis 103, 118, 140, 267, 274, 362, 363, 442.

Odysseus 1, 219, 282.

Oiniadai 18, 21 ff., 31 ff., 88, 113, 118, 149, 154, 172, 189, 284, 288, 289, 291, 292-93, 295, 297, 301, 304, 312-13, 322, 328, 329, 334, 336, 342, 345, 351, 356, 360, 361, 438, 449.

Oiniadai (Old) 23-24, 26-27, 46.

Olpai 205, 303.

Omphalion 442.

Oxeiai Islands 24-25, 30.

Paianion 39, 46, 50, 336.

Paliochalia 221, 256.

Palaiomanina 46, 279.

Palairos 105, 113, 121, 123, 129, 141 ff., 158, 161, 166, 171-72, 174, 182, 189, 200, 201, 205, 206, 208, 210, 212, 216, 217, 221, 260, 286, 288, 313, 318, 360, 361, 439-40, 451.

Palairos (modern) 79, 120, 134, 203.

Palairos Bay 16, 74, 134, 141, 165, 174.

Palairos Valley 121, 134, 211.

Panagia (Chapel at Kato Kandhila) 109.

Paracheloitis 15, 18, 29.

Patraic Gulf 292.

Peloponnesians 245, 289.

Peratia 175, 184 ff., 192, 442, 453.

Perdicricto 190-91, 256.

Perikles 292-93, 300.

Perseus 357-58.

Phagia 183, 204, 206, 222.

Philip II 261, 311-12.

Philip V 36, 39-40, 50-51, 123, 179, 218, 246, 261-62, 335, 341 ff., 346 ff.

Phoitiai 124, 329, 334, 336, 360.

Phormio 78, 294-95.

Pirgos on Kotoupa 180, 206 ff., 220, 453.

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Pirgos (Mytikas Valley) 83 ff., 131, 139, 148, 450.

Pirgos on the Sklavaina Road 138 ff., 153, 180, 197, 223, 367, 450.

Plagia 173, 185, 186.

Plagia (New) 175, 183, 185.

Plagia (Old) 175, 183, 194, 204.

Plagia Peninsula 16, 134, 174, 184 ff., 203, 206, 211, 214, 216, 217, 224, 285, 329, 443.

Plagia Valley 194, 221.

Plaka (beachrock formation) 248, 251, 264.

Plakroto (Mt.) 135, 215.

Plakroto (pass) 121, 135.

Plataia 294.

Pleuron 280.

Plotius Varus 366.

Pogonia (mole near, harbor near) 117, 118, 121, 138, 144, 165 ff., 177, 198, 202-203, 211, 223, 286, 440, 485.

Polykrates (of Samos) 236.

Polyvoleio 161-62, 452.

Pompeius, Cn. 361, 362.

Port Dhrepano 188, 226.

Portes (Nasos?) 47

Porto Cello (ship) 318

Port Petala 25, 48.

Port Plateali (Platea) 55, 56, 63.

Preveza 211, 267, 270, 274.

Profitis Elias (Mt.) 144, 150, 157 ff., 164.

Pyrrhos 322, 323, 325, 326.

Qasr, Khubbaz 100

Rome, Romans 90-91, 99, 100, 125, 179, 262, 341, 343, 346 ff., 357 ff., 362, 365, 366.

Samos (archaic mole) 237.

Santa Maura (Venetian fortress) 248, 264.

Sauria 46, 279, 322.

Sicily 279, 298, 466, 470 ff., 486.

Skerdilaidas 195.

Sollion 154, 189, 194, 195, 197, 200 ff., 211, 216, 219, 221, 222, 285, 286, 295, 303.

South Mole at Leukas 168, 186, 188, 224, 226 ff., 486-86.

Sparta, Spartans 295.

Stavrolimnionas (Stravolimiona) 201-202, 206.

Stavros 175, 182.

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Stenon 175, 183, 210.

Sterna 141, 156, 176, 180, 202, 204, 206, 208, 211 ff., 220, 452.

Stratos 260, 287, 296, 301, 306, 310, 317, 321, 322, 326, 328, 329, 334, 339, 355, 464, 470, 478.

Stretti Canali 248, 264.

Syracuse 129, 464, 483.

Taphians 277.

Teleboans 277, 280.

Terentius Varro 366.

Teuta 195, 332, 335.

Thermon 46, 260, 287, 337.

Thisbe 99.

Thyrreion, Thyrreians 103, 141, 176, 203, 329, 336, 339, 341, 344, 350, 351, 357, 359, 360, 362, 365, 464, 478, 484.

Timoleon 104, 118, 312, 467 ff.

Timotheos 306-307.

Tiro 176, 263, 362.

Tiryns 99.

Tolmides 300.

Trajan 368.

Trikardho (Oinaidai) 21, 31.

Trikorpho 141, 208, 215, 217, 222, 223.

Valerius Laevinus, M. 342.

Vathy Avali 198 ff., 204, 206, 222.

Vigla 161.

Volios (islet) 229.

Vonitsa 274.

Voulkaria (ancient Myrtountion) 134, 144, 161.

Vurko Bay 114.

Wadi Kurnub 100.

Wadi Lebda 126.

Xenomenes 176.

Xeromeros 83, 123.

Xylokastro (Kastri above Agios Athanasios) 176.

Xylopigadho 161, 162, 163-64, 175.

Zakynthos 244, 278, 280, 292, 476.

Zaverdha (19th century Palairos) 133, 134, 202-203.

Zavitsa tower (Pirgos in the Mytikas Valley) 124.

Zeus 89, 90, 146.

Zeus (Karaos, Temple of) 70, 158.

Zeus (Olympios, Temple of) 158, 160, 181.

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