

GORDION SPECIAL  
STUDIES I: NONVERBAL  
GRAFFITI, DIPINTI,  
AND STAMPS





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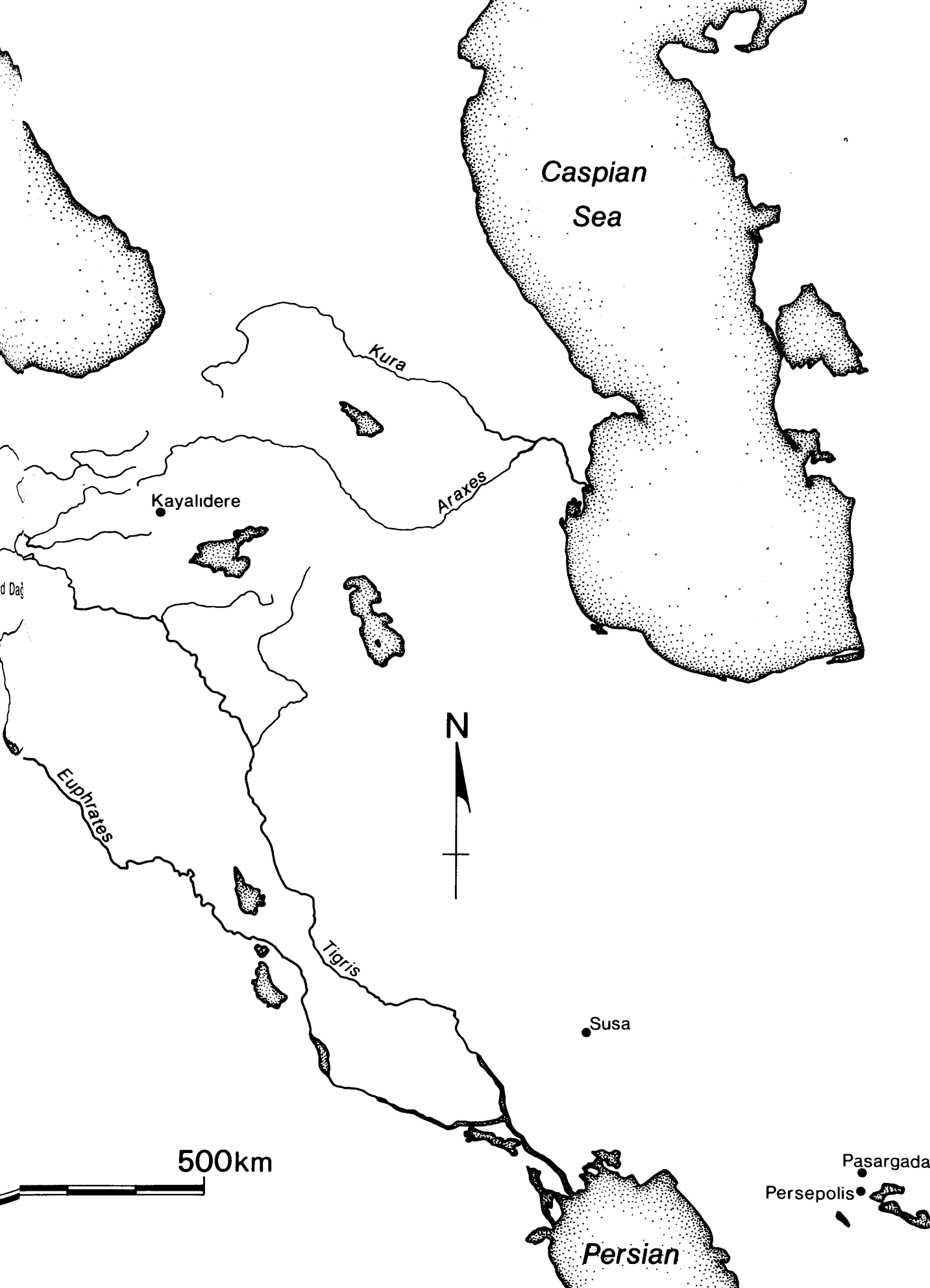
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# NONVERBAL GRAFFITI, DIPINTI, AND STAMPS

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Lynn Emrich Roller is an Associate Professor of Classics at the University of California, Davis, where she has been a member of the faculty since 1977. She was first introduced to the ancient Mediterranean world as an undergraduate at Bryn Mawr College, where she studied with Mabel Lang, Machteld Mellink, and Brunilde S. Ridgway. She also received an M.A. from Bryn Mawr, and completed her Ph.D. in Classical Archaeology at the University of Pennsylvania, having supplemented her education with studies at the University of Heidelberg and the American School of Classical Studies at Athens. Her first interests were in Greek archaeology; she completed three seasons of field work at Corinth in Greece, excavating both in the ancient town and in the temple of Apollo, and wrote her dissertation on Greek funeral games. Since 1979 she has turned her attention to Anatolian studies as a member of the Gordion Project, sponsored by The University Museum under the direction of Keith DeVries. In addition to the present monograph, she is preparing a study of the Hellenistic epigraphical material from Gordion for publication. Her research interests include not only epigraphical problems, but also Greek mythology, religion, and athletics.

UNIVERSITY MUSEUM MONOGRAPH 63

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Ellen L. Kohler Series Editor

VOLUME I

# NONVERBAL GRAFFITI, DIPINTI, AND STAMPS

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Lynn E. Roller



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# Contents

	LIST OF PLANS.....	vii
	LIST OF FIGURES.....	viii
	LIST OF PLATES.....	x
	ABBREVIATIONS.....	xi
	REFERENCES.....	xii
	MINOR ABBREVIATIONS.....	xvii
	FOREWORD.....	xviii
	PREFACE.....	xix
	INTRODUCTION.....	xx
PART	I. MARKS APPLIED BEFORE FIRING.....	1
	Introduction.....	1
	Section 1A: Graffiti.....	1
	Section 1B: Stamps.....	3
	Catalogue (1A-1 to 1A-24).....	4
	Catalogue (1B-1 to 1B-16).....	6
PART	II. OWNERS' MARKS APPLIED AFTER FIRING.....	8
	Section 2A: Nonalphabetic Symbols.....	8
	Catalogue (2A-1 to 2A-231).....	16
	Section 2B: Letter Forms.....	33
	Catalogue (2B-1 to 2B-203).....	37
	Section 2C: Pictures.....	52
	Catalogue (2C-1 to 2C-13).....	53
PART	III. COMMERCIAL AND NUMERICAL NOTATIONS.....	55
	Section 3A: Commercial Trademarks on Imported Vessels.....	55
	Catalogue (3A-1 to 3A-24).....	58
	Section 3B: Capacity Marks.....	60
	Catalogue (3B-1 to 3B-40).....	65
PART	IV. MISCELLANEOUS.....	69
	Catalogue (4-1 to 4-9).....	69
PART	V. SUMMARY.....	71
	INDEX OF PROVENIENCES.....	75
	CONCORDANCE: INVENTORY NUMBER/CATALOGUE NUMBER.....	82

TURKISH SUMMARY.....	87
INDEX.....	98
CHARTS A AND B.....	101
PLANS	
FIGURES	
PLATES	

---

# List of Plans

Plan 1. The site of Gordion.

Plan 2. Middle Phrygian Level of the City Mound.

Plan 3. Destruction Level of the City Mound.

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# List of Figures

- Figure 1. Graffiti Marks Applied Before Firing (**1A-1 to 1A-11**)
- Figure 2. Graffiti Marks Applied Before Firing (**1A-12 to 1A-21**)
- Figure 3. Graffiti Marks Applied Before Firing (**1A-22 to 1A-24**)  
Stamps Applied Before Firing (**1B-1 to 1B-9**)
- Figure 4. Stamps Applied Before Firing (**1B-10 to 1B-16**)  
Nonalphabetic Symbols Applied After Firing (**2A-1 to 2A-8**)
- Figure 5. Nonalphabetic Symbols Applied After Firing (**2A-9 to 2A-18**)
- Figure 6. Nonalphabetic Symbols Applied After Firing (**2A-19 to 2A-25**)
- Figure 7. Nonalphabetic Symbols Applied After Firing (**2A-26 to 2A-35**)
- Figure 8. Nonalphabetic Symbols Applied After Firing (**2A-36 to 2A-40**)
- Figure 9. Nonalphabetic Symbols Applied After Firing (**2A-41 to 2A-54**)
- Figure 10. Nonalphabetic Symbols Applied After Firing (**2A-55 to 2A-65**)
- Figure 11. Nonalphabetic Symbols Applied After Firing (**2A-66 to 2A-73**)
- Figure 12. Nonalphabetic Symbols Applied After Firing (**2A-74 to 2A-84**)
- Figure 13. Nonalphabetic Symbols Applied After Firing (**2A-85 to 2A-94**)
- Figure 14. Nonalphabetic Symbols Applied After Firing (**2A-95 to 2A-104**)
- Figure 15. Nonalphabetic Symbols Applied After Firing (**2A-105 to 2A-110**)
- Figure 16. Nonalphabetic Symbols Applied After Firing (**2A-111 to 2A-117**)
- Figure 17. Nonalphabetic Symbols Applied After Firing (**2A-118 to 2A-129**)
- Figure 18. Nonalphabetic Symbols Applied After Firing (**2A-130 to 2A-139**)
- Figure 19. Nonalphabetic Symbols Applied After Firing (**2A-140 to 2A-148**)
- Figure 20. Nonalphabetic Symbols Applied After Firing (**2A-149 to 2A-159**)
- Figure 21. Nonalphabetic Symbols Applied After Firing (**2A-160 to 2A-168**)
- Figure 22. Nonalphabetic Symbols Applied After Firing (**2A-169 to 2A-175**)
- Figure 23. Nonalphabetic Symbols Applied After Firing (**2A-176 to 2A-185**)
- Figure 24. Nonalphabetic Symbols Applied After Firing (**2A-186 to 2A-200**)
- Figure 25. Nonalphabetic Symbols Applied After Firing (**2A-201 to 2A-213**)
- Figure 26. Nonalphabetic Symbols Applied After Firing (**2A-214 to 2A-225**)
- Figure 27. Nonalphabetic Symbols Applied After Firing (**2A-226 to 2A-231**)
- Figure 28. Letters Applied After Firing (**2B-1 to 2B-9**)
- Figure 29. Letters Applied After Firing (**2B-10 to 2B-21**)
- Figure 30. Letters Applied After Firing (**2B-22 to 2B-30**)

- Figure 31. Letters Applied After Firing (**2B-31 to 2B-44**)
- Figure 32. Letters Applied After Firing (**2B-45 to 2B-55**)
- Figure 33. Letters Applied After Firing (**2B-56 to 2B-70**)
- Figure 34. Letters Applied After Firing (**2B-71 to 2B-84**)
- Figure 35. Letters Applied After Firing (**2B-85 to 2B-100**)
- Figure 36. Letters Applied After Firing (**2B-101 to 2B-117**)
- Figure 37. Letters Applied After Firing (**2B-118 to 2B-130**)
- Figure 38. Letters Applied After Firing (**2B-131 to 2B-146**)
- Figure 39. Letters Applied After Firing (**2B-147 to 2B-160**)
- Figure 40. Letters Applied After Firing (**2B-161 to 2B-176**)
- Figure 41. Letters Applied After Firing (**2B-177 to 2B-189**)
- Figure 42. Letters Applied After Firing (**2B-190 to 2B-203**)
- Figure 43. Pictures Applied After Firing (**2C-1 to 2C-13**)
- Figure 44. Commercial Trademarks (**3A-1 to 3A-15**)
- Figure 45. Commercial Trademarks (**3A-16 to 3A-24**)
- Figure 46. Capacity Marks (**3B-1 to 3B-5**)
- Figure 47. Capacity Marks (**3B-6 to 3B-16**)
- Figure 48. Capacity Marks (**3B-17 to 3B-23**)
- Figure 49. Capacity Marks (**3B-24 to 3B-29**)
- Figure 50. Capacity Marks (**3B-30 to 3B-37**)
- Figure 51. Capacity Marks (**3B-38 to 3B-40**)  
Miscellaneous (**4-1 to 4-3**)
- Figure 52. Miscellaneous (**4-4 to 4-9**)

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# List of Plates

- Plate 1. Graffiti Marks Applied Before Firing (**1A-2, 1A-4, 1A-5, 1A-8, 1A-18**)
- Plate 2. Graffiti Marks Applied Before Firing (**1A-19**)  
Stamps Applied Before Firing (**1B-1, 1B-2, 1B-3, 1B-6, 1B-13**)
- Plate 3. Nonalphabetic Symbols Applied After Firing (**2A-1, 2A-7, 2A-33, 2A-58, 2A-97, 2A-111, 2A-127, 2A-155, 2A-191**)
- Plate 4. Letters Applied After Firing (**2B-35, 2B-55, 2B-152**)  
Pictures Applied After Firing (**2C-2, 2C-3, 2C-4, 2C-6, 2C-7, 2C-11**)
- Plate 5. Commercial Trademarks (**3A-9, 3A-10, 3A-13, 3A-15, 3A-16, 3A-17, 3A-18, 3A-19**)
- Plate 6. Commercial Trademarks (**3A-20, 3A-21, 3A-22, 3A-23**)  
Capacity Marks (**3B-3**)
- Plate 7. Capacity Marks (**3B-7, 3B-8, 3B-29, 3B-31**)  
Miscellaneous (**4-8**)

ERRATUM. Missing chart referred to on p. 33, n. 3.

### Chart

#### Letters of the Phrygian Alphabet and Their Latin Equivalents

A	a	O	o
B	b	Γ	p
Γ	g	ρ	r
Δ	d	ς ς̣	s
⏏ ⏏̣ ⏏̣̣	e	T	t
⏏ F	v	Υ	u
F	z	Ϸ Ϸ̣	y
I	i		
K	k	ϸ	Phrygian letter (value unknown)
⏏	l	Ϲ	Phrygian letter (value unknown)
M	m	T	Phrygian letter (value unknown)
N	n	↑	Phrygian letter (value unknown)

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# Abbreviations Used in the References

<i>AA</i>	<i>Archäologischer Anzeiger</i>
<i>AbhBerl, phil-histKl</i>	<i>Abhandlungen der preussischen Akademie der Wissenschaft, philologisch-historische Klasse</i>
<i>AbhDOG</i>	<i>Abhandlungen der deutschen Orient-Gesellschaft</i>
<i>ActaA</i>	<i>Acta Archaeologica.</i>
<i>AJA</i>	<i>American Journal of Archaeology</i>
<i>AnatST</i>	<i>Anatolian Studies</i>
<i>AntK</i>	<i>Antike Kunst</i>
<i>AntP</i>	<i>Antike Plastik</i>
<i>ASAtene</i>	<i>Annuario della R. Scuola Archeologica di Atene</i>
<i>AthMitt</i>	<i>Mitteilungen des deutschen archäologischen Instituts, Athenische Abteilung</i>
<i>BASOR</i>	<i>Bulletin of the American Schools of Oriental Research</i>
<i>BCH</i>	<i>Bulletin de correspondance hellénique</i>
<i>Belleten</i>	<i>Belleten Türk Tarih Kurumu</i>
<i>BMMA</i>	<i>Bulletin of the Metropolitan Museum of Art, New York</i>
<i>BSA</i>	<i>British School at Athens, Annual</i>
<i>BSL</i>	<i>Bulletin de la société de linguistique de Paris</i>
<i>CPCA</i>	<i>California Publications in Classical Archaeology</i>
<i>CVA</i>	<i>Corpus Vasorum Antiquorum</i>
<i>IstMitt</i>	<i>Mitteilungen des deutschen archäologischen Instituts, Abteilung Istanbul</i>
<i>JdI</i>	<i>Jahrbuch des (k.) deutschen archäologischen Instituts</i>
<i>JHS</i>	<i>Journal of Hellenic Studies</i>
<i>NC</i>	<i>Numismatic Chronicle</i>
<i>OIP</i>	<i>Oriental Institute Publications</i>
<i>ParPass</i>	<i>La Parola del Passato</i>
<i>RA</i>	<i>Revue archéologique</i>
<i>REA</i>	<i>Revue des études anciennes</i>
<i>SMEA</i>	<i>Studi Micenei ed Egeo-Anatolici</i>
<i>UPMB</i>	<i>University of Pennsylvania Museum Bulletin</i>
<i>WVDOG</i>	<i>Wissenschaftliche Veröffentlichungen der deutschen Orient-Gesellschaft</i>
<i>ZAssyr</i>	<i>Zeitschrift für Assyriologie</i>

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# Minor Abbreviations

app.	Appendix	MC	Miscellaneous Clay (in field/catalogue number)
Ave.	Average		
Bldg.	Building	Meg. 1, 2, etc.	Megaron 1, 2, etc., on the City Mound
CC-1, 2, etc.	Clay-Cut Bldg. 1, 2, etc. on the City Mound	mm.	millimeter
CM	City Mound	n.	note
cm.	centimeter	no., nos.	number, numbers
col., cols.	column, columns	p., pp.	page, pages
D.	Diameter	Pl.	Plate
D. rim	Diameter of rim	P	Pottery (in field/catalogue number)
D. foot	Diameter of foot	PH.	Preserved height
Est.	Estimated	PL.	Preserved length
Fig.	Figure	PPB	Persian-Phrygian Building (on plans only)
H.	Height	PTh.	Preserved thickness
I	Inscription (in field/catalogue number)	PW.	Preserved width
K-II	Tumulus Körte II	Rest.	Restored
KH	Küçük Hüyük	SS	Stamps and Seals (in field/catalogue number)
L	Lamp (in field/catalogue number)	ST	Stone (in field/catalogue number)
L.	Length	TB 1, 2, etc.	Terrace Bldg. 1, 2, etc., on the City Mound
m.	meter	Th.	Thickness
M	Megaron (on plans only)	Vol.	Volume
Max. dim.	Maximum dimension	W.	Width

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# Foreword

The series of Final Reports of the Gordion Excavations of The University Museum, Philadelphia, was initiated with Volume I: R. S. Young, *Three Great Early Tumuli*, in 1981.

With the present volume a parallel series of Gordion Special Studies is being introduced, all of which will present sets of materials over which no one final report upon stratigraphy, architecture, or major arts could have domain. The nonverbal graffiti, dipinti, and stamps included here cross over various periods and proveniences at Gordion. They appear to furnish a supplement to Cl. Brixhe and M. Lejeune, *Corpus des inscriptions paléo-phrygiennes* (Paris 1984) in which were published all the known Phrygian verbal inscriptions. Dr. Roller's materials appear at first to be of less importance than the longer Phrygian examples of writing, but they are of essential value to the total picture of literacy and daily life at Gordion. The brevity of these informal markings, which form categories outside the more frequently published classes subtended under the term "epigraphy," causes them to be subject to a variety of interpretations which are well covered in the text. The author has shown remarkable courage in tackling so elusive a subject, one which she alone has contemplated and developed as a subject for publication in the Gordion series. She has thus broken new ground in the presentation of this category of Gordion finds.

It will appear to the reader that a comprehensive trench plan of the entire City Mound would be of great aid in the detailed location of each object discussed here. Such a master trench plan, which must be drawn up in relation to the architectural evidence, is contemplated for completion and presentation along with the architectural volumes to appear in the Gordion Series.

The author executed the original graphite rubbings from the originals; the author and Barbara Hayden did the finished inking. Heartfelt gratitude to our Turkish colleagues and friends, and to excavators, consultants, and the preparational staff, is expressed in the author's preface.

After the manuscript was submitted for publication, the editorial preparation of the book for press was in part supported by grant R0-20790-84 from the National Endowment for the Humanities.

Ellen L. Kohler  
The University Museum



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# Preface

The untimely death of Rodney S. Young in 1974 brought the excavations at Gordion to a sudden halt at a point when work at the site was still very much in progress. The Gordion staff and the directorate of The University Museum decided that this would be an appropriate point to review the progress of the excavations and begin formal publication of the large quantity of material uncovered during the years of Professor Young's work at the site, 1950–1973. The author was first invited to work at Gordion in 1979, and began her study of the nonverbal marks in 1981. Several years before this, Claude Brixhe and Michel Lejeune of the French Institute in Istanbul had begun a major study of all Phrygian epigraphical texts, including those from Gordion. There still remained, however, a large and diverse group of objects with incised, painted, and stamped marks, ranging in date from the Late Bronze Age through the Hellenistic period. Because of the intrinsic value of this material, it was decided to publish it separately as a supplementary study in the Gordion series.

The present volume owes much to the assistance of many friends and colleagues. Study at Gordion would not have been possible without the cooperation of the Turkish Department of Antiquities and its representatives at the site, who did much to forward the progress of the study seasons. Special thanks are due to Raci Temizer and Osman Aksoy, successive directors of the Museum of Anatolian Civilizations in Ankara, and to Inci Bayburtluoğlu and the Museum staff for much valuable assistance in working with the Gordion collection stored in Ankara. Nuşin Asgari and Gulay Tigrel of the Istanbul Archaeological Museum aided in the study of comparative material from Midas City and the Körte excavation at Gordion. At Boğazköy Peter Neve provided kind hospitality and stimulating information. I would also like to thank Crawford H. Greenewalt, Jr., Mabel Lang,

Machteld Mellink, Carl Nylander, and Edith Porada for much information and valuable suggestions. Claude Brixhe graciously made his epigraphical and linguistic expertise freely available. In Davis, Wilbur Benware, Ann Gunion, and Kevin Roddy provided important assistance.

Finally, it is a special pleasure to record my debts to my colleagues in the Gordion project. Work at Gordion has always been a team effort, and many of the ideas and interpretations in this study evolved from discussions on the excavation house balcony. Gunlög Anderson, Ann Gunter, Sebastian Payne, Irene Romano, G. Kenneth Sams, Elizabeth Simpson, and Frederick Winter all gave freely of their information and insight. To Ellen Kohler I owe a double debt of gratitude, for information on the Gordion tumuli and for valuable service as an editor and as Gordion archivist. Thanks also are due to Robert H. Dyson Jr., Director of The University Museum, for his special interest in the Gordion project; to Barbara Hayden for help with the drawings; and to Karen Brown Vellucci, who prepared the manuscript and saw it through the press. Very special thanks go to Keith DeVries, both for his leadership as field director of the Gordion project while this study was being completed, and for his frequent encouragement and many helpful comments and suggestions. All of the above contributed much to the merits of this study, while its errors are always mine.

Work on this book was made possible in part by generous assistance from the Junior Faculty Fellowship Program and by several Faculty Research Grants from the University of California, Davis, and by a grant from the Penrose Fund of the American Philosophical Society. The text was completed in January 1985, and it has not been possible to take into account bibliography appearing after that date.

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# Introduction

The University Museum of the University of Pennsylvania has been supporting excavations and research at the site of Gordion, about sixty miles southwest of Ankara, Turkey, since 1950. Fieldwork took place at the site in 1950, and then in odd-numbered years from 1951 to 1973, with a few additional seasons in even-numbered years. From 1975 to the present, a series of study seasons has been held at the site for the purpose of examining the excavated material and preparing it for publication.

This study presents one such body of material for publication, the pottery and other objects with nonverbal graffiti, dipinti, and stamps. All of the objects under discussion have been marked in some way to indicate their owner, contents, place of origin, or commercial use. The term "nonverbal" has been developed to describe these marks, for none of them consists of a text with identifiable words. They can include simple lines and X's, symbols drawn in elaborate patterns, single letters, ligatures and monograms, two or three separate letters, and numbers. From all excavated objects with nonverbal graffiti, dipinti, and stamps, 560 examples of marks have been selected to include in the present study.<sup>1</sup> They are found on locally made Phrygian wares and on wares imported from Greece, Lydia, and other parts of Anatolia.

The nonverbal marks provide information on many phases of the site's habitation. Gordion was continuously occupied from the Early Bronze Age until its abandonment in 189 B. C., with the possible exception of a brief hiatus in the early third century B. C. caused by the Galatian invasion. While there are no objects with marks from the Early and Middle Bronze Ages, the nonverbal marks cover virtually every other period of this occupation. Vase marks with characteristic Hittite signs are found on the pottery of the Late Bronze Age. The earliest periods of Phrygian occupation have produced objects with simple lines and crosshatching, and there are a great many such marked objects from the Kimmerian Destruction Level in the early seventh century B. C. After the rebuilding of the city in the early sixth century B. C., there is a series of objects with nonverbal

marks which lasts until the city's abandonment in 189 B. C., as well as objects with marks from the Lydian fortification mound (the Küçük Hüyük) and several of the tumuli.

Several groups of material have been excluded from consideration in this study. Texts in the Phrygian language, both inscriptions on stone and graffiti on pottery and other objects, are not presented here. Some of these have been published by R. S. Young,<sup>2</sup> and all Phrygian texts from Gordion have been restudied and are published by Claude Brixhe and Michel Lejeune in their *Corpus des inscriptions paléophrygiennes*.<sup>3</sup> Graffiti which comprise distinct words in the Greek language or stamps on Greek transport amphoras are not included, although a few graffiti and dipinti consisting of single letters, ligatures, and monograms which are clearly in the Greek script are included. Hittite seals and sealings will be included in another special study on Gordion seals, but Hittite graffiti which were used as potters' marks and identification marks are presented here.

The objects with nonverbal marks have been arranged in four parts according to the technique and function of the mark, and each part has then been further subdivided into specific types of material. Within each subdivision the material is presented in chronological order. Every part includes an introduction defining the material to be presented and a discussion of each type of mark, followed by the catalogue entries. Because the character of the marks is quite diverse, no general conclusions about their meaning are possible, but a short chapter at the end will review the various types of marks from a chronological perspective.

The parts are:

## I. MARKS APPLIED BEFORE FIRING

These marks were applied to pottery before firing in order to identify the manufacturer, function, or destination of the vessel. They are presented in two groups:

1A. Graffiti

1B. Stamps

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little. Every effort has been made to include all examples of specific patterns, symbols, and pictures, and also all examples of letter forms.

2. Young (1969b) 252–296.

3. Brixhe and Lejeune (1984) 81–214.

1. The catalogues for parts 1, 3, and 4 include every known example of a nonverbal mark appropriate to these categories. The number of objects with marks which could be included in part 2, owners' marks, is very large, and many instances of marks consisting of simple crosses, X's, and slashes which could be merely random scratches have been omitted, since they seem to contribute

## II. OWNERS' MARKS APPLIED AFTER FIRING

These marks were placed on a vase after its manufacture, evidently by its owner as a means of personal identification. These have been divided into three groups:

### 2A. Nonalphabetic Symbols

Some of these marks seem to represent specific recognizable symbols found elsewhere in Anatolia. Others are more random marks, such as single lines, X's, crosshatching, or latticing (crosshatching done in a square pattern), which were simply scratched on by the owner to distinguish his own piece.

### 2B. Letter Forms

This section includes single letters, ligatures and monograms, and two or more separate letters which do not seem to have been intended as a word.

### 2C. Pictures

## III. NUMERICAL AND COMMERCIAL NOTATIONS

These are marks which give information on the commercial traffic or economic use of the piece. The types discussed here are:

### 3A. Commercial Trademarks

All of the objects in this section are wares which were imported into Gordion, either from Greece or from other parts of Anatolia. The marks comprise both graffiti and dipinti, placed on the vessel by the exporter or commercial handler of the vessel. They include acrophonic numbers, letters, and nonalphabetic symbols.

### 3B. Capacity Marks

These marks indicate the capacity (whether actual or potential) of the vessel. They are all found on storage vessels of local manufacture.

## IV. MISCELLANEOUS

This section includes the marks which do not fit into any of the three previous categories. They include marks on a variety of stone objects, an example of a game board on a tile, and one example of a graffito in Byzantine Greek, presented here because of the long chronological gap between this graffito, and the graffiti on Phrygian and ancient Greek wares.

The catalogue entries within in each section have been arranged according to the following format.

4. Strabo 1.3.21. On the Kimmerian invasion, see Kallinos, quoted by Strabo 14.1.40, and Herodotos 1.6.

5. This event is surely to be connected with the activities of the Persian army in central Anatolia under Cyrus, resulting in the sack of Sardis in 547 B. C. Herodotos 1.81–86. See Young (1953a)

First are the catalogue number and name, then the Gordion inventory number and provenience, followed by the dimensions and a reference to the illustration. After this are the description of the piece, the type and placement of the mark, and a description of the mark, ending with the date of the piece. A few pieces have more than one type of mark, e.g., both a letter and a nonalphabetic symbol. In these instances each mark has been entered separately in the catalogue under the appropriate section, and cross references are given to pieces with dual entries.

The proveniences of the pieces from the City Mound are designated by their trench or building names. When the piece came from a unit which was recognized as a specific room, this information has been given in addition to the trench name. Tumuli are indicated by letters, following the convention of the Gordion excavation, which designated the tumuli by the letters A–Z, with the exception of the largest tumulus, called Tumulus MM. A general plan of the site and architectural plans of the Destruction Level (early seventh century B. C.), and of the Middle Phrygian Level (sixth through early fourth centuries B. C., also called the Persian or Archaic Level in preliminary site reports) are included.

Assigning dates to the pieces has proved a troublesome and inconclusive task, and many dates must be regarded as tentative. Occasionally historical circumstances present a specific chronological framework, such as the destruction of Gordion by the Kimmerian invaders in the early seventh century B. C.,<sup>4</sup> the destruction of the Lydian barracks around 547 B. C.,<sup>5</sup> the Galatian incursion in the second quarter of the third century B. C.,<sup>6</sup> and the abandonment of the city in 189 B. C.<sup>7</sup> In most cases, however, no clear correlation with historical events exists, and archaeological data must be used to determine the chronology of a given object and its mark. Usually one would expect that the date of the archaeological context would give the date of the individual piece, and for many pieces, particularly those coming from closed deposits such as tumuli, this is surely the case. The situation of many of the objects found on the City Mound is often less clear, and because here early pieces have so frequently been found in later, sometimes much later contexts, the context date can give only a general range at best. One clear *terminus ante quem* for a sizable group of marks should be mentioned, the closure of two large deposits of pottery, the North and South Cellars in the Middle Phrygian Level. These two cellars contained a substantial concentration of

159–166.

6. The evidence for the disruption caused by the Galatians at Gordion is summarized by Cox (1966) 19, 32, 50, and Winter (1984) 25, 30–35.

7. Livy 38.13.11–13.

marked vases, evidently a mixture of material from the early sixth through early fourth centuries B. C. The cellars appear to have been filled in after an earthquake had destroyed much of this level in the early fourth century B. C.<sup>8</sup>

Pottery chronology provides another means of determining the date of a mark, but this too has its limitations. Marks which occur on Greek pottery can sometimes be assigned a fairly precise date, but since the provenience of much of the Greek pottery, especially the black-glazed wares, is not known, its date of manufacture is often uncertain.<sup>9</sup> The chronology of marks found on locally made fabrics (the great majority) is even less certain. Gordion is one of the few carefully excavated Phrygian sites, and the study of Phrygian pottery, especially of the sixth century B. C. and later, is still in the preliminary stages, so our knowledge of pottery shapes is rarely precise enough to give a specific date. Where a Phrygian vase imitates the shape of a Greek piece, a *terminus post quem* is possible, although since Phrygian pottery seems to have been more conservative than Greek pottery, this again gives only a general range. The study of Gordion material from the second half of the fourth century B. C. and later is just now being undertaken, and the material from the excavation seasons 1969–1973 was never published in preliminary reports, factors which present further problems.

Another possible criterion for assigning a date might be the letter forms discussed in Section 2B, but these also provide little help. There are so few external criteria for establishing the date of a Phrygian text (a situation which applies to inscriptions on stone as well as graffiti on pottery), that the date of the object on which the text occurs usually provides the date for the letter form, rather than the other way around.

Therefore the following system (also used by Mabel Lang in her presentation of the graffiti and dipinti from the Athenian Agora)<sup>10</sup> has been adopted to organize the entries within each part into a chronological progression: the pieces with more specific dates are given first, followed by those with a more general range. For example, a piece of the first half of the sixth century B. C. will precede a piece from the sixth century B. C., which in turn will precede a piece whose date is known only as sixth through fourth centuries B. C. It is possible that a piece whose date is given as sixth through fourth centuries B. C. may in fact be of the early sixth century and therefore precede the piece dated to the

later sixth century B. C., but since our knowledge of the chronology of Phrygian pottery shapes rarely gives a more precise date than that of the archaeological context, it seems best to continue using this method of chronological arrangement. Future studies of other groups of material from Gordion, several of which are now in progress, will undoubtedly help clarify many of the chronological uncertainties.

In part 2B, letters used as owners' marks have been transcribed according to the following system. Those letters which are clearly in the epicchoric script of Gordion are given in lower-case Latin letters, transliterated according to the conventions established for the Phrygian script by M. Lejeune.<sup>11</sup> The Phrygian alphabet used at Gordion and its Latin equivalents are given in appendix 1.<sup>12</sup> Letters which are clearly in the Greek alphabet are given in upper case Greek letters; these include not only characteristic Greek letter forms which differ from Phrygian letters, e.g., Α, Σ, but also the letters Η, Θ, Ξ, Φ, Χ, Ψ, and Ω, which do not occur in the Phrygian alphabet. There are, however, many instances where it is uncertain which writing system is used, for most of the letters in the Phrygian and Greek scripts are identical. In these cases I have assumed that the Phrygian script was used, although this must be regarded as tentative, especially in the case of individual letters on pottery dating from the late fourth century B. C. until the abandonment of the city, a period which has produced a number of inscriptions and graffiti written in the Greek language, in what is clearly Greek script.<sup>13</sup> A few examples of characteristic Phrygian letter forms do appear on pottery of the third century B. C., however, and so it is possible that any letter graffiti in which a distinctively Greek letter does not appear could be Phrygian. In describing the pieces with alphabetic letters, the term 'ligature' is used to designate two letters written side by side and joined by a single stroke, while 'monogram' designates two or more letters which are more intricately combined.

The following epigraphical conventions have been observed:<sup>14</sup> the use of square brackets, ---]ab[--- indicates the probable existence of letters obliterated by a break in the vessel; the use of subscript dots, e.g., ạ ḅ, indicates letters of doubtful reading.

The figures include a line drawing of every mark at a scale of 1:2. In addition, there are photographs of all dipinti, which can be reproduced more clearly in a photograph than in a drawing, and of a selection of graffiti and stamps which seem to be of special interest.

8. Young (1966) 268–269.

9. Winter (1984) 71–72.

10. Lang (1976) 2.

11. Lejeune (1969a) 20 and 39; (1970) 55 and 60; Brixhe and Lejeune (1984) 279–282.

12. See also Brixhe and Lejeune (1984) 79.

13. Young (1953b) 6. The Greek epigraphic texts are being prepared for publication by the author.

14. The epigraphical conventions are patterned after the "Leyden system," as described in *AJA* 82 (1978) 4.

## Part I

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# Marks Applied Before Firing

### *Introduction*

Of the 560 examples of nonverbal marks found on pottery and other objects included in this study, only a small fraction was applied to pottery before firing. All are found on vessels of local manufacture. They are discussed together in this section solely because all of them must have been placed on the pieces in the potter's workshop,<sup>1</sup> but beyond this the purposes served by the marks are quite diverse. They appear in the catalogue under two headings, graffiti and stamps. This, however, is a division by technique, not function, for in some cases the stamps appear to have been used for the same purpose as the graffiti. The separate examples of graffiti represent a broad range of chronology and types, while the extent of the stamped material is more circumscribed.

There are a limited number of reasons why a piece

of pottery might be marked before firing: to identify the potter's establishment or the individual for whom the piece was made, to specify the potential capacity of the vessel, to indicate the nature or function of its contents, or to designate where the vessel was to be stored. Marks placed on a vessel by its owner or those indicating the actual volume of a vessel's contents would be placed on the vessel after its firing, and commercial trademarks would be unlikely to occur on local fabrics made for local use. Among the Gordion examples, the types of vessels with marks done before firing and the forms of these marks present no general pattern, and so the reasons for placing each mark on the vessel before firing can best be determined on an individual basis.

### *Section 1A Graffiti*

The graffiti done before firing which occur on pottery of the Late Bronze Age form a coherent group and will be considered first. All are found on sherds from large closed coarse ware vessels of uncertain shape, which seem to have been manufactured during the period when Gordion was part of the Hittite Empire. Little is known about the precise contexts of these marked sherds. Apart from the excavation of a Hittite cemetery (which produced no pottery with marks), investigation of the Bronze Age levels at Gordion has been limited to a few deep soundings made in the City Mound,<sup>2</sup> and much Gordion pottery manufactured during the second millennium B. C. has been found in first millennium B. C. contexts. One of the incised sherds was found in a sounding of Bronze Age levels (1A-10), while the remainder come from post-Bronze Age contexts. One mark (1A-4) occurs on a Bronze Age vessel which was evidently reused at a later date, since the

sherd also contains part of a graffito in Phrygian script.

The marks on these Late Bronze Age pieces are limited to two basic forms, the arrow and the triangle. An example of a simple arrow occurs on the exterior wall of a closed vessel (1A-1), while a double-ended arrow is found on the underside of the base of a closed vessel (1A-2). The simple arrow is found as a vase mark on Late Bronze Age vessels from other Anatolian sites, including four examples from Boğazköy, all occurring in the handle zone of large closed vessels,<sup>3</sup> several pieces from Alaca Hüyük, also in the handle zone,<sup>4</sup> and on the exterior surface of two shallow bowls from Tarsus.<sup>5</sup> The Boğazköy examples have been tentatively interpreted as a schematic Hittite hieroglyph or letter,<sup>6</sup> but the form could also be an identification mark, and it is possible that this relatively simple form could occur independently at Gordion.

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1. One vessel with a set of capacity marks applied before firing (3B-29) will be discussed in Section 3B.

2. For reports on the excavation of Bronze Age material from the City Mound of Gordion, see Young (1951) 10 and Young (1966) 276-78. The cemetery of the Hittite period has been published by Mellink (1956). A preliminary report of the Bronze Age pottery from Gordion is given by Gunter (1982) 267. For the final publica-

tion of Bronze Age material, see Gunter (1986).

3. Seidl (1972) no. B 30-34.

4. Koşay (1965) no. 6-9.

5. Goldman (1956) 318, no. 1132, 1133.

6. Seidl (1972) 76.

There are also eight examples of sherds from Late Bronze Age vessels with a type of triangle incised on the vessel. One appears on the underside of the base, the others on the walls of closed coarse ware vessels of unknown shape. The base sherd is marked with a simple triangle (1A-3), while six of the wall sherds have an almost identical mark, a triangle whose lower bar has been bisected by a central vertical line (1A-4 to 1A-9). The remaining vessel (1A-10) has a slightly different sign, a double triangle with a central vertical line extending down from the central point, which is found on the shoulder of the vessel. These marks, most of which appear in conspicuous places, were probably intended to identify the purpose to which the vessels were to be put, such as a consignment for a particular storage area, or to designate the contents of the vessel. It seems unlikely that the mark indicated the value of the vessel itself, for these are all coarse ware pieces.

The meaning of these triangular marks is suggested by the use of the triangle with central vertical line in the Hittite hieroglyphic script as the symbol for "king."<sup>7</sup> The occurrence of an almost identical mark used consistently in the same position on similar vessels strongly suggests that the Gordion marks should be interpreted as a royal symbol. This suggestion is supported by the occurrence of nearly identical signs on the walls of large closed vessels from Boğazköy<sup>8</sup> and Alaca Hüyük,<sup>9</sup> and on bowls from Tarsus,<sup>10</sup> marks which have also been interpreted to mean "king" or "royal."<sup>11</sup> The presence of this hieroglyph on these Gordion storage vessels could indicate that the vessels contained a substance stored in a royal warehouse, such as rations for state workers. The different forms of the triangular mark may have designated containers from different royal warehouses or ration centers, or a different type of ration (e.g., a different food substance) given to state workers, although this suggestion cannot be verified since none of the pieces was found in a context which gives any clue to its function.

The remaining pieces with graffiti done before firing are all locally made wares from the first millennium B. C., the period of Phrygian habitation in Gordion. The number of graffiti is small: there are thirteen examples plus one instance of a burnished mark. The marks comprise both alphabetic letters and nonalphabetic symbols. There seems to be no detectable pattern among them, for the fabric and shape of these incised vessels and the marks on them are quite varied.

One vessel from one of the tumuli antedating the Kimmerian destruction, Tumulus P, has an X burnished on the underside of the base (1A-11). This is one of ten almost identical black-polished dinoi which were placed in the burial to contain food-stuffs.<sup>12</sup> None of the other vessels in the series is marked, and so it is unlikely that this one was marked for eventual placement in the tomb. More likely the vessel was given this burnished mark at the time of its manufacture by its potter, perhaps to indicate the workshop.

Two small black polished bowls of similar shape and dimensions were found in the debris of houses under the burial of Tumulus D (1A-12, 1A-13). They were probably made for household use. Each has a cross incised before firing on the underside of the base, perhaps a mark of the potter, used to identify the bowls as the product of a certain workshop.

Three large piriform jars with letter graffiti were uncovered in one of the buildings from the Middle Phrygian Level, Building A (1A-15 to 1A-17).<sup>13</sup> These three jars were part of a cache of at least seventeen such jars which were sunk into the floor of the building at some point after its construction in the first half of the sixth century B. C. but before its destruction in the early fourth century B. C. Two of them (1A-15 and 1A-16) have the letter *a* incised on the shoulder; the third (1A-17) has an X in the same position. The signs in this conspicuous position may have been intended to indicate the contents of the vessel, but why only three of the series were marked is not known. The marks could also have indicated the main vessel in the subdivision of a storage section, but since it was not recorded whether the jars were found in any particular order, this must remain uncertain. Several storage vessels with capacity marks applied after firing were also uncovered in the same room in this building,<sup>14</sup> suggesting that the room may have been a storage depot of some kind. Also from Building A, but from a later level, comes the rim of a large gray ware pithos which was incised with a nonalphabetic mark before firing (1A-21). This mark also may refer to the contents of the vessel.

In addition to the marked vessels from Building A, several vessels with prefiring graffiti from other parts of the Phrygian city have been found in contexts dating from the sixth century to the third century B. C. Most of these graffiti occur on closed coarse ware vessels, probably storage containers. A triskeles appears on the shoulder of a large pithos (1A-14)

7. LaRoche (1960) 10, no. 17.

8. Seidl (1972) no. B 36

9. Koşay (1965) nos. 10 (simple triangle), 11 (triangle with central vertical line), 12-16 (other triangular marks).

10. Goldman (1956) 316, no. 1136-37.

11. Seidl (1972) 76.

12. Young (1981) 41-43, 46, TumP 79-87 bis.

13. The excavation of Building A is described in Young (1955) 1-2.

14. 3B-14, 3B-15, 3B-16, 3B-17.

and on the underside of the base of a coarse ware jar (1A-18). The two marks are probably unconnected, since the legs of the triskeles run in opposite directions and the vessels were found in different contexts. The graffito on the pithos is found next to a series of capacity marks (3B-8). It could have identified the contents of the vessel, but it is more likely a mark of personal ownership, for the triskeles is a common mark at Gordion, used both as a stamp and as an owner's mark incised after firing. The triskeles on the underside of the jar may also be a mark of personal identification, for it would not be visible when the container was full. This is the only example of a small jar with a graffito incised before firing, and may have been marked by the potter to identify his own work or at the request of the potential buyer.

Examples of unique nonalphabetic graffiti occur on the rim of a large gray ware jar (1A-19), and on the shoulder of a very large red pithos (1A-20), a rare example of a graffito done before firing on a storage vessel made for a habitation level after the middle of the fourth century B. C. The function of these marks is uncertain. They may have indicated the contents in some way, since both are found in a

conspicuous position on a storage vessel. The marks could also serve as personal identification, for the graffito on the red pithos, like the triskeles mentioned earlier, is a mark which recurs in other contexts in Anatolia as an identifying sign (see the discussion below).

The mark found on two small gray ware echinus bowls (1A-23, 1A-24), found together in a late fourth or early third century B. C. context, may designate the potter's workshop. Both bowls have the identical letter graffito, *ap* written in ligature on the underside of the base. In this same level but in Building A was found a ring stand with a graffito, *at* written as a monogram, on the lower exterior surface (1A-22), the only example of a graffito on this pottery shape known to date from Gordion. The use of ligatures and monograms appears to be characteristic of Greek rather than Phrygian script, and so these three pieces may have been marked by Greek craftsmen, a possibility made more likely by the fact that the number of letters in Greek script increases substantially after the mid-fourth century B. C. (See the discussion in section 2B, pp. 37, 39-40).

## Section 1B Stamps

There are sixteen vessels with marks stamped on before firing included in this catalogue. The examples of stamped marks are much more limited than graffiti, both in types of marks and in the variety of vessels on which they occur. Only four types of stamps are known and they are found on a small number of vase shapes and fabrics. In contrast to the apparently random occurrences of graffiti, the stamps tend to recur on similar types of vessels and in similar positions.

The most common stamp is the triskeles, or in one case, the tetraskeles. This is found in two forms. On five vessels the triskeles mark is formed by three, or in the case of the tetraskeles, four small distinct semicircular impressions (1B-1, 1B-2, 1B-4, 1B-5, 1B-14). On the other seven examples, the triskeles was formed by a single stamp which created the entire impression at one stroke (1B-3, 1B-6 to 1B-11). The objects with the semicircle stamps could be dated any time between the sixth and third centuries B. C. The other triskeles stamps are all, with one possible exception (1B-3), found on vessels from fourth and third century B. C. contexts.

Four of the vessels with a triskeles or tetraskeles seem to be small open fine ware bowls of black or

gray fabric (1B-1, 1B-2, 1B-4, 1B-5).<sup>15</sup> In each case, the mark was stamped on the underside of the bowl in an inconspicuous place. This could be the mark used by the potter to identify his work, or it could have been stamped at the request of a buyer. It seems less likely that the mark would refer to the function of the bowl, for this is one of the most common pottery shapes at Gordion, and many similar bowls are known from Gordion with no identifying mark. The small bowls could also have been intended for a common location, since all were found in the same general part of the City Mound. A similar triskeles stamp made of distinct semicircles (1B-14) was found on the outer wall of a large krater in a conspicuous position below the rim; this mark could have designated the vessel for a particular storage area or for a particular owner.

The triskeles stamp is also found on the upper part of the handle of seven gray ware closed vessels (1B-3, 1B-6 to 1B-11). These appear to be jugs of similar fabric and dimensions. Each of the stamps was formed by a single die cut in the triskeles shape and deeply impressed into the vessel; thus the impressions are quite different from those on the bowls and krater discussed above. No two stamps are exactly alike, for on some the legs are turning clockwise and on some counterclockwise. The jugs may all be the product of a single workshop, in which case

15. Two of the objects (1B-4, 1B-5) are only partially preserved and their surfaces are badly worn, so it is not possible to be certain.

the triskeles could be the identifying mark of the potter. The stamps were placed on the handle of the jugs in a conspicuous position, and so they may have been intended as much for decoration as for identification. Since the jugs were found in different parts of the city, the stamps probably had no reference to the destination of the vessel.

In addition to the triskeles stamp, two other types of stamps have been found. An ingot-shaped stamp occurs twice, on two virtually identical gray ware bowls of the third century B. C. (1B-12, 1B-13), in each case on the underside of the base in an inconspicuous place. These would seem to be stamps indicating the potter's workshop. Two examples of a stamped asterisk in a circular field on two similar late third or early second century B. C. bowls (1B-15, 1B-16) may also have served the same function.

The varied forms of the nonalphabetic symbols and their placement on objects of different shape and purpose implies that, with a few exceptions, there was no systematic way of marking the output of a certain potter's workshop or vessels designated for a particular function or storage area. Several of these marks applied before firing, however, are similar to nonalphabetic symbols which appear elsewhere in Anatolia. The triskeles is found as a stamp on a large storage container of the Hittite Empire period from Boğazköy,<sup>16</sup> and was also used in the first millennium as a device on Lycian coins and on Achaemenian stamp seals used in Anatolia.<sup>17</sup> It also occurs among the owners' marks incised on Gordion vessels after

firing.<sup>18</sup> The symbol found on the large red pithos (1A-20) also occurs as part of a device on a Lycian coin.<sup>19</sup> Certain nonalphabetic marks seem to have been widely recognized in Anatolia as identifying emblems, and it is possible that the potential buyer of a jug or storage vessel could have ordered his personal sign to be placed on the container, which was then securely marked as his property during the process of manufacture.

In summarizing the examples of graffiti and stamps applied to vessels before firing, we may note that, apart from the Bronze Age pieces, the material is quite diverse and shows little in the way of regular patterns. There are a few instances in which the same stamp appears on several vessels of similar shape or fabric, but even here there are many vessels of the same shape and fabric without marks which occur in similar contexts. The pithoi with prefiring graffiti on the shoulder, for example, are the only vessels with such marks among the large number of similar vessels found at Gordion. Moreover, the number of vessels with marks applied before firing is quite small in comparison to the number of vessels with marks of other kinds. Thus the material from the Phrygian levels of Gordion differs from the pattern of marking large numbers of containers, evident at many Anatolian sites, including Gordion, during the Bronze Age<sup>20</sup> and also from the pattern of the frequent use of marks, both letters and nonalphabetic symbols, incised after firing.

## Catalogue

### *Graffiti Applied Before Firing* (1A-1 to 1A-24)

#### 1A-1 Gray ware sherd

I 628 CM-NE

Max. dim. 0.134 m.

Fig. 1

Wall sherd of large coarse closed vessel, gray-brown fabric. (Sherd may be early Iron Age.)

Graffito on exterior: upright arrow

14th century-12th century B. C.

#### 1A-2 Base of buff vessel

I 245 KH-field trench

D. base 0.074; Max. dim. 0.115 m.

Fig. 1; Pl. 1

Base of coarse closed vessel with shallowly concave bottom, pinkish-buff clay.

Graffito on underside of base: double-ended arrow

14th century-12th century B. C.

16. Seidl (1972) no. A 112b.

17. As a Lycian coin type, Kraay and Hirmer (1966) no. 649, 656-660. The form also occurs as a letter in Lydian script, Gusmani (1975b) 50; as a personal mark on Lydian stamp seals of the Achaemenian period, Boardman (1970) 50, no. 64; and as a countermark on coins found in Anatolia, Hill (1922) cxvii, and Newell (1914) 5, fig. 1. See also below, appendix 3, Chart B. The tetraskes is also found as a device on Lycian coins, Kraay (1966) no. 651, and as a countermark on coins found in Anatolia, see the tables published

by Hill (1922) and Newell (1914).

18. 2A-89, 2A-138, 2A-200.

19. Kraay (1976) no. 990. See also appendix 3, Chart B.

20. Over 300 examples of stamps and graffiti done before firing on vessels from the second millennium B. C. levels at Boğazköy are illustrated by Seidl (1972), who also mentions many parallels from other Bronze Age sites in Anatolia.



**1A-3 Base of gray ware vessel**

I 591 CM-ETC

Est. D. base 0.07; Max. dim. 0.137 m.

Fig. 1

Base and part of lower walls of coarse flat-bottomed closed vessel, burned.

Graffito on underside of base along edge: triangle, one side of triangle along edge of base

14th century–12th century B. C.

**1A-4 Sherd of gray ware vessel**

I 560 CM-NCT

0.074 x 0.068 m.

Fig. 1; Pl. 1

Sherd from wall of coarse closed gray ware vessel.

Graffito on exterior surface: upright triangle with short vertical line extending up from center of lower bar

14th century–12th century B. C.

See 2B-172 for letter graffito.

**1A-5 Sherd of closed buff vessel**

I 125 CM-ETC-2

0.130 x 0.064 m.

Fig. 1; Pl. 1

Wall fragment of closed coarse ware vessel, pinkish-buff clay.

Graffito on exterior wall: upright triangle with short vertical line extending up from center of lower bar

14th century–12th century B. C.

**1A-6 Sherd of buff vessel**

I 624 CM-NCT

0.098 x 0.072 m.

Fig. 1

Wall sherd of large coarse orange-buff closed vessel.

Graffito on exterior: upright triangle with short vertical line extending up from center of lower bar

14th century–12th century B. C.

**1A-7 Sherd of gray closed vessel**

I 144 CM-ETO-10

0.086 x 0.064 m.

Fig. 1

Wall sherd of coarse gray ware closed vessel.

Graffito on exterior wall: upright triangle with short vertical line extending up from center of lower bar

14th century–12th century B. C.

**1A-8 Fragment of flat-bottomed closed vessel**

I 158 CM-NCTA-7

PH. 0.024; Est. D. base 0.09 m.

Fig. 1; Pl. 1

Fragment of coarse pinkish-buff closed vessel with flat bottom.

Graffito on exterior wall near base: inverted triangle with short vertical line extending down from center of upper bar; point of triangle touches edge of base

14th century–12th century B. C.

**1A-9 Sherd of large closed vessel**

I 194 CM-MN-2

0.077 x 0.044 m.

Fig. 1

Wall sherd of large closed vessel, coarse pinkish-buff clay.

Graffito on exterior surface: upright triangle with short vertical line extending up from center of lower bar

14th century–12th century B. C.

**1A-10 Sherd of buff vessel**

I 623 CM-NCT

0.075 x 0.057 m.

Fig. 1

Sherd from shoulder of buff-brown closed vessel, neck offset from shoulder by depression.

Graffito on shoulder: upper part of double triangle with vertical line extending down from center point of inner triangle

14th century–12th century B. C.

**1A-11 Black polished dinos<sup>21</sup>**

P 4778 Tumulus P

D. rim 0.142; D. base 0.084 m.

Fig. 1

Five nonjoining pieces of black polished round-mouthed dinos with low broad ring foot; fabric rotting.

Burnished mark on underside of base: X

Fourth quarter of the 8th century B. C.

**1A-12 Black polished bowl**

P 190 Tumulus D, house debris under burial

H. 0.036; D. 0.126 m.

Fig. 2

Small black polished bowl with flat bottom and plain rim.

Graffito on underside of base: cross

Before mid-6th century B. C.

**1A-13 Black polished bowl**

P 189 Tumulus D, house debris under burial

H. 0.042; D. rim 0.143 m.

Fig. 2

Black polished bowl with rounded bottom slightly offset and plain rim.

Graffito on underside of base: cross

Before mid-6th century B. C.

**1A-14 Buff pithos**

P 2727 CM-PS-1

H 0.65; D. body 0.42; D. rim 0.23 m.

Fig. 2

Large buff pithos with flat base and flat everted rim.

Graffito on upper part of shoulder below rim: triskeles 6th century B. C.

See 3B-8 for capacity mark (Pl. 7).

**1A-15 Gray ware jar**

P 807f CM-Building A, room 4

H. 0.427; D. 0.325 m.

Fig. 2

Coarse gray ware piriform jar with flat everted rim.

Graffito on shoulder: a

6th century–first quarter of the 4th century B. C.

**1A-16 Gray ware jar**

P 781 CM-Building A, room 4

PH. 0.083; Est. D. rim 0.24 m.

Fig. 2

Fragment from neck and shoulder of large gray ware jar with flat everted rim.

Graffito on upper part of shoulder, below rim: a 6th century–first quarter of the 4th century B. C.

**1A-17 Gray ware jar**

P 807d CM-Building A, room 4

H. 0.445; D. 0.317 m.

Fig. 2

Coarse gray ware piriform jar with flat everted rim.

Graffito on shoulder: X

6th century–first quarter of the 4th century B. C.

21. Young (1981) 43, TumP 87 bis.

**1A-18 Base of gray ware vessel**

I 278 CM-M5-F

0.121 x 0.102; D. base 0.085 m.

Fig. 2; Pl. 1

Base of gray ware closed vessel with flat bottom and thick walls, perhaps small storage vessel.

Graffito on underside of base: triskeles  
6th century-4th century B. C.

**1A-19 Rim of gray ware jar**

I 220 CM-WML-2E

PH. 0.092; Est. D. rim 0.21 m.

Fig. 2; Pl. 2

Section of rim and shoulder of coarse gray ware jar, everted rim, two horizontal grooves on shoulder.

Graffito on exterior between rim and horizontal grooves: two inverted V's connected by central vertical line curving toward left at top

6th century-4th century B. C.

**1A-20 Red pithos**

P 2938 CM-PPPN

H. 1.145; D. body 0.79; D. rim 0.46 m.

Fig. 2

Large red pithos with flat bottom, ovoid body, flat everted rim with torus outer edge. Complete except for large gap in shoulder.

Graffito on shoulder: crescent with arc upward, surmounted by vertical line which hooks to the right

Second half of the 4th-first half of the 3rd century B. C.

**1A-21 Gray ware pithos rim**

I 644 CM-Building A

Est. D. rim 0.34; Max. dim. 0.122 m.

Fig. 2

Fragment of rim, neck, and upper part of shoulder of gray ware pithos; rim flat, everted.

Graffito on shoulder, below rim: upper part of rectangle with two interior diagonal lines creating upper half of diamond, arc in right triangular space formed between diamond and rectangle pattern, vertical line extending upward from top center of rectangle

Second half of the 4th-first half of the 3rd century B. C.

**1A-22 Fragment of buff ring stand**

I 132 CM-Building A

0.134 x 0.114; Est. D. lower surface 0.25 m.

Fig. 3

Fragment of large pinkish-buff ring stand with groove and ridge on exterior.

Graffito on lower part of exterior wall near resting surface: **AT**, monogram, vertical line continues below central bar of **A**; curving arc at lower left corner of **A**

Second half of the 4th-first half of the 3rd century B. C.

**1A-23 Gray ware echinus bowl**

P 4243 CM-PBX-2, stone robber's trench

H. 0.030; Est. D. rim 0.12; Est. D. foot 0.06 m.

Fig. 3

*Circa* one-third of gray ware echinus bowl with ring foot, inturned rim, palmette stamps on floor.

Graffito on underside of base: **ap** (ligature)

Second half of the 4th-first half of the 3rd century B. C.

**1A-24 Gray ware echinus bowl**

I 446 CM-PBX-2

H. 0.024; D. rim 0.097; D. foot 0.059 m.

Fig. 3

*Circa* half of gray ware echinus bowl with palmette stamps on floor.

Graffito on underside of base: **ap** (ligature), trace of diagonal stroke above

Second half of the 4th-first half of the 3rd century B. C.

**Stamps Applied Before Firing (1B-1 to 1B-16)****1B-1 Black polished bowl**

I 294 CM-TB7-B

H. 0.017; D. rim 0.083; D. foot 0.040 m.

Fig. 3; Pl. 2

Small black polished bowl with disc foot, ray pattern burnished on exterior wall extending from foot to rim.

Stamp on underside of foot: triskeles

6th century-first half of the 4th century B. C.

Stamp on exterior surface of handle, near join to neck: triskeles

6th century-first half of the 4th century B. C.

**1B-2 Base of black polished bowl**

I 295 CM-TB7-B

Max. dim. 0.079; D. foot 0.048 m.

Fig. 3; Pl. 2

Base and lower wall of black polished bowl with concave disc foot, ray pattern burnished on exterior wall extending from foot toward rim.

Stamp on underside of foot: three legs of tetraskesles deeply stamped, one lightly stamped

6th century-first half of the 4th century B. C.

**1B-4 Base of black polished bowl**

I 585 CM-CC3-A

0.060 x 0.040; Est. D. foot 0.04 m.

Fig. 3

Base and lower wall of coarse black polished bowl, much abraded, foot missing.

Stamp on underside of base: triskeles

6th century-4th century B. C.

**1B-5 Base of gray ware bowl**

I 580 CM-fallen earth from scarp north of Meg. 3

0.078 x 0.055; D. foot 0.055 m.

Fig. 3

Base and part of lower wall of coarse gray ware bowl with disk foot.

Stamp on underside of base: triskeles

6th century-3rd century B. C.

**1B-3 Gray ware handle**

I 588 CM-ETV-2

PL. 0.072; W. 0.052 m.

Fig. 3; Pl. 2

Broad vertical strap handle, oval in section, of coarse gray ware closed vessel.

**1B-6 Gray ware handle**

SS 238 CM-WS-9N

PL. 0.050; W. 0.055 m.

Fig. 3; Pl. 2

Vertical strap handle of coarse gray ware vessel, probably trefoil jug.

Stamp on upper part of handle, near join to neck: triskeles

First half of the 4th century B. C.

**1B-7 Gray ware handle**

SS 251 CM-PPB

PL. 0.057; W. 0.059 m.

Fig. 3; Pl. 2

Vertical strap handle from coarse gray ware jug.

Stamp on upper part of handle, near join to neck: triskeles

First half of the 4th century B. C.

**1B-8 Gray ware handle**

SS 276 CM-WCW-13

PL. 0.050; W. 0.060 m.

Fig. 3; Pl. 2

Vertical strap handle of coarse gray ware vessel.

Stamp on upper part of handle, near join to neck: triskeles

First half of the 4th century B. C.

**1B-9 Gray ware handle**

SS 265 CM-CC3-B

PL. 0.057; W. 0.055 m.

Fig. 3; Pl. 2

Vertical strap handle of coarse gray ware jug.

Stamp on upper part of handle, near join to neck: triskeles

Second half of the 4th century B. C.

**1B-10 Gray ware handle**

SS 137 CM-ET0-11

PL. 0.058; W. 0.060 m.

Fig. 4; Pl. 2

Broad vertical strap handle of coarse gray ware jug.

Stamp on upper part of handle, near join to neck: triskeles

4th century—first half of the 3rd century B. C.

**1B-11 Gray ware handle**

SS 152 CM-MN-Ext. 3

PL. 0.115; W. 0.054 m.

Fig. 4

Vertical strap handle of coarse gray ware vessel, probably a jug.

Stamp on upper part of handle, near join to neck: triskeles

4th century—3rd century B. C.

**1B-12 Base of gray ware bowl**

SS 151 CM-Q-1

PH. 0.025; Est. D. foot 0.080 m.

Fig. 4

*Circa* half of base of gray ware bowl with ring foot.

Stamp on underside of base: ingot-shaped stamp; within this, an X, short side joined by arc. Probably same stamp as **1B-13**, but impression less perfectly formed

Second half of the 4th—first half of the 3rd century B. C.

**1B-13 Gray ware echinus bowl**

SS 140 CM-NCTA-7

H. 0.030; Est. D. rim 0.086; D. foot 0.052 m.

Fig. 4; Pl. 2

Coarse gray ware echinus bowl with low ring foot.

Stamp on underside of base: ingot-shaped stamp; within stamp, XA (ligature), curved line over opposite end of X

3rd century B. C.

**1B-14 Gray ware krater**

I 598 CM-South trench

PH. 0.090; PW. 0.082; Est. D. rim 0.034 m.

Fig. 4

Rim sherd of large open gray ware vessel, probably krater. Coarse gray fabric. Flat-topped rim extends out from wall, underside of rim curves down to wall.

Stamp on exterior wall below rim: triskeles

3rd century B. C.

**1B-15 Gray ware echinus bowl**

P 4097 CM-SET, layer 2 house

H. 0.050; D. rim 0.113; D. foot 0.056 m.

Fig. 4

Gray ware echinus bowl, complete except for chips on rim, carelessly made but fired to silvery finish.

Stamp in center of underside of base: asterisk in circle

Second half of the 3rd—first quarter of the 2nd century B. C.

**1B-16 Gray ware echinus bowl**

P 4098 CM-SET, layer 2 house

H. 0.046; D. rim 0.103; D. foot 0.056 m.

Fig. 4

Gray ware echinus bowl with high ring foot. Fired to silvery finish. Same fabric and stamp as **1B-15**.

Second half of the 3rd—first quarter of the 2nd century B. C.

## Part II

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# Owners' Marks Applied After Firing

The great majority of the marks found on pottery at Gordion was incised onto vessels after firing. Part II is concerned with marks applied after firing which were evidently placed on the vessel by its owner to indicate possession.<sup>1</sup> Such marks will be discussed under three headings: nonalphabetic symbols, letters, and pictures. Their use as marks of personal ownership seems evident in part because of the character of the mark, as will be discussed below, and in part because of the types of vessels on which these marks occur and the location of the mark on the vessel. In contrast to the graffiti and stamps placed on a vessel before firing, which are frequently found on large storage vessels, marks of ownership are most often found on smaller vessels, such as bowls and small jugs. With few exceptions the vessels with owners' marks come from habitation levels; this includes many of those whose provenience is given as

one of the tumuli, for they were found either in the tumulus mantle or in the debris of houses under the mound rather than in the burial proper. The marks on these vessels usually occur in fairly inconspicuous places, such as on the underside, on the wall just above the base, or under the rim.

The majority of the owners' marks is found on locally made wares, although some occur on wares imported from other parts of Anatolia and from the Greek world. In some cases the imported vessels have marks similar to those found on locally made fabrics,<sup>2</sup> indicating that the mark was applied at Gordion. Most signs seem to have been chosen as a means of personal identification, although some, including a few found on larger vessels, may have been intended to mark vessels designated for use in a particular area.

### *Section 2A Nonalphabetic Symbols*

The first set of marks to be discussed will be those which consist of nonalphabetic signs and symbols, the largest group of owners' marks at Gordion. The material is of two general types. One comprises the marks which reproduce a specific design. Some of these are easily recognized symbols: the schematic branch (16 examples), the pentagram, or five-pointed star (17), the swastika (7), the arrow (4), a closed X resembling an hourglass or upright double ax, here called a butterfly (14), the triskeles (3), the asterisk (10), the pentagon (2), the cross (23), and the circle (8). Others are composed of combinations of circles, squares, rectangles, straight lines, and more complicated patterns which, while less easy to describe, also seem to represent a particular symbol or design. The second type consists of nonalphabetic

marks not intended to reproduce a specific design; this includes zigzag and straight lines, X's, arcs, and laticing scratched in an irregular fashion onto the vase. These graffiti seem to be deliberate but somewhat more haphazard attempts to identify the vessel as a personal possession. In some cases the mark chosen appears to co-ordinate with the shape and provenience of a vessel, but most marks reflect the personal choice of the owner. They tend to occur on vessels from levels earlier than those with other types of marks applied after firing,<sup>3</sup> with the greatest concentration found on vessels from the sixth through mid-fourth centuries B. C.

Graffiti applied after firing which consist of symbols and patterns used to identify vessels first occur in the eighth century B. C. levels of the city.

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1. Marks applied after firing which are clearly of a commercial character, such as trademarks and notations of price or capacity, will be discussed in part III.

2. Compare, for example, the similar marks on 2A-173 (Phry-

gian) and 2B-100b (Greek), on 2A-196 (Phrygian) and 2A-183 (Greek), and on 2A-206 (Phrygian) and 2A-185 (Greek).

3. One exception, 2C-1, a picture incised on a vessel of Late Bronze Age date, should be noted.

The earliest graffiti are generally plain lines, latticing, and asterisks scratched onto bowls and small vessels as a simple form of identification. An exception is **2A-3**, an especially interesting mark which reproduces on an early Phrygian vessel a common Hittite symbol, a triangle whose base is bisected by a central vertical line; this mark was noted on several vessels of the Late Bronze Age (**1A-4** to **1A-9**), where it is evidently a schematic form of the Hittite hieroglyph for "king." The predestruction material also provides examples of two specific patterns, the star on the wall of a closed vessel (**2A-1**) and the branch on one of the dinoi from Tumulus MM (**2A-7**);<sup>4</sup> these are the earliest instances of standard nonalphabetic symbols which will reappear frequently in later levels.<sup>5</sup> Tumulus MM also furnished another example of a mark applied after firing, an X on the bottom of another dinos (**2A-8**).

Graffiti appear on several types of vessels from the early seventh century B. C. level of the ancient city destroyed in the Kimmerian raids. A number of large bowls, most of which are incised with plain marks such as simple lines and latticing, were found in the Terrace and CC Buildings, the series of rooms which evidently formed the household quarters for the palace complex of the Destruction Level city (**2A-14** to **2A-25**). These marks are probably not notations of individual ownership, for the presence of such nearly identical marks on bowls of similar size and fabric appears to designate these bowls for use in this quarter of the city.<sup>6</sup> A few bowls of similar size and with similar marks were found in the large megara which were probably residential areas (**2A-9** to **2A-13**); these may have held food to be consumed in the megara.<sup>7</sup> Two smaller marked vases (**2A-10**, **2A-27**) attest to the continuing use of specific patterns to indicate private ownership.

The practice of marking vessels was unaffected by the destruction of the city, and several vessels from house debris found in the mantles of sixth century B. C. tumuli were incised with common nonalphabetic marks; these include the star (**2A-28**), the branch (**2A-38**, **2A-40**, **2A-44**, **2A-45**), and the pentagon, cross, and arrow (**2A-46**). Vessels with nonalphabetic marks were also found in the Küçük Hüyük, destroyed in the mid-sixth century B. C.; ex-

amples include two large jugs from the Lydian barracks with the identical mark (**2A-29**, **2A-30**).<sup>8</sup>

Habitation levels on the City Mound from the sixth through mid-fourth centuries B. C. have produced the greatest quantity of marked vases. During this period, the marks are found almost exclusively on the types of vessels which would be normal for household use: small bowls and jugs for eating and drinking, fruit stands and larger bowls used as serving dishes, and medium-sized closed vessels, probably jars or jugs, which would be of a reasonable size for household storage. These vessels, which constitute the most common pottery shapes in Gordion, are surely the property of private individuals, and the marks were scratched onto the vessels by their owners as a form of personal identification. By contrast, these marks are rarely found on large storage vessels, nor is there any pattern from the end of the sixth century B. C. onward of certain marks being associated with certain quarters of the city. The largest concentration of nonalphabetic marks was found on vessels from the South Cellar, but this represents a mixed fill of two centuries of material, probably originating in different parts of the city.

The variety and complexity of the patterns are also most notable during the sixth through mid-fourth centuries,<sup>9</sup> and these patterns exhibit many of the closest parallels with ownership marks on other types of objects. After this period some nonalphabetic symbols continue to be found, although from the later fourth century until the city's abandonment the most common type of identifying mark is a letter, either a single letter, or a ligature or monogram. Thus the use of signs and symbols as owners' marks at Gordion is most common during the period of the hegemony of independent Anatolian kingdoms, whether Phrygian or Lydian, and during the period of Achaemenian domination in Anatolia. After the middle of the fourth century when the Greek presence in central Anatolia became much stronger, the practice of using symbols as owners' marks seems to decline.

There seems to be a variety of factors involved in the choice of a particular symbol as an identification mark. The most elementary marks, such as the cross, the X, and straight and zigzag lines, have little indi-

4. See below, note 26, for the possible meaning of the branch graffito on **2A-7**.

5. Another graffito from a late eighth century B. C. context, a hawk scratched on the exterior of a buff bowl (**2C-2**), is discussed in part 2C.

6. See DeVries (1980b) 39, for a discussion of the household activities associated with the Terrace and CC Building complexes.

7. DeVries (1980b) 35-37.

8. See Young (1953a) 159-166, for a description of the Lydian barracks on the smaller mound (Küçük Hüyük).

9. Within the general time frame of the sixth to early fourth centuries B. C. it is rarely possible to be precise about specific dates of marks, particularly those occurring on local Phrygian wares (this problem is discussed more fully in the Introduction), and thus it has not been possible to draw up a precise chronological list of the occurrence of the marks or note if the popularity of certain marks changes within this period.

viduality, for they are among the most basic marks that could occur to any individual wishing to personalize his drinking cup or bowl. Other marks, such as the swastika, the five-pointed star, and the asterisk, also occur in different areas of the Mediterranean widely separated by space and time<sup>10</sup> and were evidently in general use. Some marks consist of an elaborate series of graffiti covering a large portion of the exterior surface of the vase, and the decorative quality of these patterns may have influenced the choice and placement of graffiti on a particular vessel in some cases (note, for example, 2A-100, 2A-111, and 2A-127). The frequent use of geometric patterns on painted Phrygian pottery may also have provided a source for some marks, for several of the motifs found on painted pottery of the Destruction Level are very similar to the graffiti.<sup>11</sup> From the painted pottery, parallels include the pattern of lozenge rows with 2A-10, 2A-86, 2A-96, 2A-186; hooked lambdas with 2A-14, 2A-102; the feather tree with 2A-7, 2A-38, 2A-40, 2A-44, 2A-45, 2A-53, 2A-55, 2A-65, 2A-91, 2A-121, 2A-155, 2A-157, 2A-158, 2A-174, 2A-212. The frequent occurrence of latticing may have originated in the Phrygian fondness for the checkerboard motif. Some of the marks, though, seem to represent a deliberate attempt to reproduce a specific symbol, one which could serve as a form of identification because it was widely recognized. This can be demonstrated through a review of the use of such marks in other areas of Anatolia and a consideration of the use of the same symbols and patterns on objects other than pottery.

Nonalphabetic symbols had been used to identify vessels on the Anatolian plateau long before they are attested in the eighth century B. C. Phrygian city of Gordion. As noted in the section on marks applied before firing, two symbols, the triangle and the arrow, occur on several examples of Late Bronze Age

pottery from Gordion,<sup>12</sup> and both of these recur on Phrygian wares as well. Many more such symbols were stamped or incised before firing on Late Bronze Age pottery from Boğazköy,<sup>13</sup> and in many cases these symbols too are similar to marks applied after firing on Phrygian pieces. Among the Bronze Age symbols attested at Boğazköy which are found as Phrygian pottery marks at Gordion are the star,<sup>14</sup> triskeles,<sup>15</sup> branch,<sup>16</sup> cross,<sup>17</sup> swastika,<sup>18</sup> butterfly,<sup>19</sup> arrow,<sup>20</sup> and other combinations of lines, crosses, and latticing.<sup>21</sup>

It is uncertain to what extent the appearance of Hittite marks on the Phrygian pottery of Gordion can be said to indicate continuity between the Late Bronze Age, and the eighth century B. C. and later material. Most of the parallels from the Bronze Age material are found at Boğazköy, not Gordion.<sup>22</sup> The Bronze Age marks were all placed on the exterior of large closed containers in conspicuous places, evidently to designate the storage area or contents of the vessel; thus these are probably not marks of private ownership. Moreover, some of the simpler marks, such as pairs of lines or crosshatching patterns, could occur independently in the two areas and in different chronological periods.

Some of the other Boğazköy marks noted here are quite distinctive, however, and it seems likely that these occur on Phrygian pottery because the symbol was one which continued to be recognized in Anatolia. Among these symbols are some which have a particularly long period of use in Anatolia and are frequently found in Gordion. These include the triskeles,<sup>23</sup> the butterfly,<sup>24</sup> and the branch. The branch is an especially interesting example, for it is one of the more frequent symbols on Hittite pottery from Boğazköy, found both as a stamp and as a graffiti. The details of the branch stamped on the Boğazköy pottery are often quite carefully delineated; the individual stalk of the branch is distinct and clear

10. See the remarks of Johnston (1979) 1-2, on the use of these marks on vases from Late Bronze Age Cyprus and the Aegean area, and as commercial trademarks in the Greek world starting in the seventh century B. C.

11. Illustrations of painted Phrygian pottery from the early Iron Age at Gordion are given in Sams (1973): lozenge panels, 586, fig. 1; hooked lambdas, 588 fig. 2; feather tree, 589 fig. 1; checkerboards, 587 fig. 1, 2.

12. Above, pp. 4-5.

13. Seidl (1972).

14. Seidl (1972) no. A 57.

15. Seidl (1972) no. A 112b.

16. Seidl (1972) no. A 121-217, B 24-27.

17. Seidl (1972) no. B 9-18.

18. Seidl (1972) no. B 19.

19. Seidl (1972) no. B 22.

20. Seidl (1972) no. B 30-34.

21. Seidl (1972) B 20-21, 23.

22. We should note, however, that knowledge of the Bronze Age levels at Gordion is limited to a few soundings; see Gunter (1986).

23. Note also the use of the triskeles as a stamp and graffiti applied before firing in Gordion, discussed in part 1, pp. 6-7, and also as a graffiti incised after firing, 2A-89, 2A-138, 2A-200.

24. This is, however, one of the symbols which was widely used in the Mediterranean world, for it is found as an owner's mark in Gordion, as a letter in the Carian alphabet, and also occurs in several epichoric scripts of Archaic Greece with a variety of phonetic equivalents. See Guarducci (1955) 169-171.

drawings of the attached floral material can be seen, making it possible to try to identify the actual plant being represented, whether a stalk of grain or a branch with berries or grapes.<sup>25</sup> The instances among the Boğazköy graffiti are more schematic. The examples of the branch among the graffiti incised after firing on Phrygian pottery of Gordion are much plainer, and so it seems unlikely that the Phrygian branch symbol was intended to represent one specific plant.<sup>26</sup> Rather, because the motif was common and widely recognized, it came to be used as a mark of personal identification on pottery.

Thus the tradition of marking pottery with nonalphabetic symbols was well established in Anatolia by the end of the second millennium B. C., and the Gordion material of the first millennium can be seen as a continuation of this tradition. Some of the nonalphabetic marks may be survivals from earlier periods. Others, however, draw on a repertory of symbols and letter forms which recur during the first millennium B. C., in different contexts, both at Gordion and in other parts of Anatolia.

A consideration of the nonalphabetic owners' marks provides some points which are relevant to the study of the Phrygian script. The Phrygian alphabet was derived from the Greek alphabet,<sup>27</sup> but has several letters not of Greek origin, including the  $\Psi$ ,  $\Uparrow$ , and  $\Upsilon$ .<sup>28</sup> These characters also occur together with other marks which are clearly nonalphabetic symbols such as 2A-39, 2A-113 ( $\Psi$ ); 2A-46, 2A-185 ( $\Uparrow$ ); 2A-58, 2A-113, 2A-127, 2A-169, ( $\Upsilon$ ). In addition, these three Phrygian letters appear in complex patterns which combine the characters into a symbol which surely had no phonetic value. Compare 2A-33 and 2A-99 ( $\Psi$ ); 2A-127, 2A-158, 2A-191, 2A-203 ( $\Uparrow$ ); 2A-34, 2A-63, 2A-100, 2A-126, 2A-133, 2A-150, 2A-167, 2A-187, 2A-220, ( $\Upsilon$ ). This suggests that these characters were not linked

solely to a specific phonetic value, but could also be used as nonalphabetic identifying marks.<sup>29</sup>

Another such character is the  $\Phi$ . This appears as a letter in one of the Old Phrygian texts from Midas City,<sup>30</sup> but it is found only as an isolated mark at Gordion (2A-154, 2A-209), and its use here probably conveys no phonetic quantity.

Many of the owners' marks on Gordion pottery also find parallels with epichoric letter forms in various scripts from other parts of Anatolia. Like the Phrygian alphabet, the local scripts of Lydia, Caria, Lycia, and Pamphylia were based in part on the Greek alphabet, although they have a greater number of non-Greek letter forms.<sup>31</sup> Several of the uniquely Anatolian characters in the scripts of these regions appear as nonalphabetic marks on Gordion pottery. In addition, a few examples of characters resembling the syllabic script of Cyprus also occur. Knowledge of Cypriote syllabic symbols probably came through an Anatolian intermediary, since it is known that some of the characters in the scripts of Caria, Lycia, and Pamphylia were derived from the Cypriote syllabary.<sup>32</sup> None of these Anatolian or Cypriote letter forms appears in any known Phrygian text, and so it seems unlikely that the Phrygian owner's mark is intended to represent the phonetic quantity of the letter as it exists in the local scripts of other areas of Anatolia or in Cyprus. Instead, such symbols served in Gordion as nonalphabetic identification marks.<sup>33</sup> Specific examples of such letter forms found in Gordion as owners' marks are listed on Chart A.<sup>34</sup>

Gordion, however, was not alone in adapting nonalphabetic symbols as marks of personal ownership, for similar, or in some cases identical marks are found on a variety of objects from other sites in Anatolia. There are a few examples of symbols among the graffiti applied to pottery after firing from con-

25. Seidl (1972) 73.

26. Seidl (1972) 74, suggested that the use of a branch in pottery stamps may have been intended to designate the different types of plant products stored in the stamped vessels. This may be the case in the occurrence of the branch on the wall of a black polished dinos from Tumulus MM, 2A-7, which was placed in the tomb to contain food. Most examples of the branch graffiti at Gordion, however, are found on the bases of small open bowls.

27. Phrygian alphabetic texts are known from the latter part of the eighth century B. C. on the City Mound, Young (1969b) 257-259, no. 9, and in Tumulus MM, Young (1981) 273-277. On the probable Greek origin of the script, see Lejeune (1970) 64, Brixhe and Lejeune (1984) 279.

28. Lejeune (1969a) 19-47, Lejeune (1970) 64, Brixhe and Lejeune (1984) 279-282.

29. This point is discussed further in the commentary on letter forms, part 2B, pp. 38-39.

30. Friedrich (1932) 125, no. 2. The  $\Phi$  symbol is generally assumed to be equivalent to the  $\uparrow$ , since it appears in another text in the same word and in the same position as the  $\uparrow$ . See Friedrich (1932) no. 3.

31. Brandenstein (1935) 143-145, Jeffery (1961) 36-37, Gusmani (1964) 20.

32. On the influence of the Cypriote syllabary on Anatolian epichoric scripts, see Jeffery (1961) 36, and Brixhe (1969b) 146.

33. A similar instance may be noted in Sardis, where the symbol  $\Psi$ , attested in the scripts of Phrygia and Caria but not in Lydia, occurs frequently as a vase mark, Gusmani (1975b) 99.

34. Sources for the letter forms of the Anatolian scripts considered here are as follows: Lydian, Gusmani (1975b) 50; Carian, Masson (1978) 10-14; Lycian, Gardthausen (1921) 605-606; Pamphylian, Gardthausen (1921), and Brixhe (1969a) 55 and (1969b) 145; Cypriote syllabary, Masson (1961) 58, fig. 1 and Heubeck (1979) 69, fig. 23.

temporary Anatolian sites, including the Phrygian pottery from Boğazköy,<sup>35</sup> and Midas City,<sup>36</sup> and the Iron Age pottery from Tarsus.<sup>37</sup> An example of a nonalphabetic owner's mark appears on a silver phiale now in the Metropolitan Museum of Art in New York, a piece probably of Anatolian origin, which bears an inverted schematic branch on the outer side of the lip.<sup>38</sup> The opportunities to find parallels for the Gordion pottery marks on vessels from other parts of Anatolia are limited, however, by the relatively infrequent mention of graffiti in publications of Anatolian Iron Age pottery, and the even rarer survival of metal vessels. Many more parallels can be found on different types of objects, such as the marks used on seals, masons' marks on stone, coin devices, countermarks on coins, and horse brands.

Stamp seals of the first millennium B. C. in Anatolia provide one body of comparanda. There are several stamp seals from the Phrygian period in Gordion which have abstract symbols and patterns cut into the face of the seal, in some cases as the principal device and in others as a secondary mark placed in the edge of the seal. A number of these patterns parallel nonalphabetic marks on pottery, such as the pattern of hooked lambdas on Gordion seal SS 74 (note 2A-14 and 2A-102), the schematic branch on SS 260, the interlocking arc and cross on SS 211 (note 2A-101), and the pattern of repeated squares on SS 119 (compare with 2A-146 and some of the simpler instances of latticing, e.g., 2A-12, 2A-17)<sup>39</sup> Other Phrygian stamp seals from a variety of proveniences also have abstract or linear patterns in their devices. Examples of the schematic branch and the eight-pointed asterisk are found on seals from Boğazköy, latticing on two seals in private collections, and a but-

terfly and other nonalphabetic symbols on a seal from Nemrud-Dağ.<sup>40</sup> In each case, such marks or patterns would have served as badges of identification for the owner of the seal.

A different body of evidence is furnished by a number of Achaemenian pyramidal stamp seals used in western Anatolia in the sixth through fourth centuries B. C.<sup>41</sup> Most of them were evidently manufactured in Lydia. The devices on these seals are similar to those on other Achaemenian seals and include the hero and animal, the monster, and the tree of life. In addition to a figured device or inscription, however, a number of them also contain abstract marks of various types. Such marks are usually a combination of circles, crescents, and arcs, or resemble characters in any one of several scripts. They have been tabulated and studied by John Boardman,<sup>42</sup> who suggests that they are personal emblems of the owners of the seals which provide a supplementary form of identification, since the figured devices themselves are not very individual. Those which find close parallels in the marks used as owners' marks on the Gordion pottery are listed on Chart B.

Among the earlier examples of nonalphabetic symbols in Anatolia are those used as masons' marks. Lydian stone work at Sardis, dating from the mid-seventh to the mid-sixth century B. C., has furnished several examples. The precise function of the Sardis masons' marks is unclear, for they occur on several different monuments, often found in reused contexts, and thus are frequently in random order. Some of these Lydian masons' marks are evidently letters in the epichoric Lydian script,<sup>43</sup> but others, including a series found on the walls of the tumulus identified as that of Gyges<sup>44</sup> and another on the walls of the acropolis of Sardis, make use of symbols which also occur

35. Bittel and Güterbock (1935), noted several examples of Phrygian graffiti; most are texts of letters, but there are a few nonalphabetic symbols, including the butterfly (pl. 19, 100) and a form like a trident, (pl. 22, 7) which occurs frequently at Gordion and is discussed below on pp. 17, 36-39. The trident form recurs on another Phrygian piece from Boğazköy, published by Neumann (1975) 76-84, no. 3., where it seems not to be a letter form, since it is repeated in a decorative pattern, reminiscent of 2A-33 and 2A-99.

36. Haspels (1951) illustrates a few examples of incised symbols: pl. 35a, no. 6 (cf. Gordion 2A-101); pl. 35a, no. 7, cross; pl. 35b, 5, butterfly; pl. 35b, 7-8, random lines and crosshatching.

37. Hanfmann (1963) 329-331. Hanfmann noted that there were very few examples of graffiti from the Iron Age levels at Tarsus, approximately fifteen examples out of ten thousand sherds. Among the examples cited are the X, arrow, and other combinations of lines and crosshatching, resembling symbols found on 2A-100, 2A-113, 2A-226, and the Y.

38. Von Bothmer (1984) 28, no. 30. Von Bothmer argued that this phiale is Greek, but the treasury of which this vessel is a part was found in Anatolia, and there is an inscription in Lydian script on another piece in the hoard. Moreover, the shape of the phiale parallels a pottery example found in Gordion, cf. 2B-18.

39. I am grateful to Edith Porada, who is working on a publication

of the Gordion seals, for drawing my attention to the linear devices on seals.

40. The seals from Boğazköy: Boehmer (1977) 80, fig. 3, and Boehmer (1978) 289, fig. 11; seals in private collections: Boehmer (1978) 290, fig. 12, 13; seal from Nemrud-Dağ, Boehmer (1977) 80, fig. 6. It is possible that the signs on the seal from Nemrud-Dağ are alphabetic letters (thus Boehmer [1977] 82), but several of them only marginally resemble Phrygian letter forms, and it seems more likely that they are nonalphabetic symbols.

41. Boardman (1970) 19-44.

42. Boardman (1970) 23, fig. 3.

43. Gusmani (1975b) 65-66, nos. B I 1-2.

44. Gusmani (1975b) 69, suggested that one of the marks from the tomb of Gyges, B I 5 (1) could be a magical symbol or a monogram rather than a mason's mark. Hanfmann (1965) 34, and *idem* (1980) 100, felt that the mark B I 5 (1 a and b) was a ligature for *gamma upsilon* and read this mark as the monogram of the name Gyges, the presumed occupant of the tomb in which the marked blocks are located. This interpretation, however, has been questioned by Gusmani (1975b) 70 and is made more unlikely by the occurrence of a virtually identical mark on a Gordion piece, 2A-226, a jug of local fabric which can surely have no connection with Gyges.



among the owners' marks on Gordion pottery. They include the swastika, the hooked lambda, the circle with a central line, and other linear marks.<sup>45</sup>

Marks composed of characteristically Anatolian symbols also occur on masonry construction at a number of Achaemenian sites in Iran, indicating anew that Anatolian craftsmen were extensively used in the building programs of the Achaemenian kings.<sup>46</sup> One set of such marks is found on the Tall-i Takht at Pasargadae, constructed during the reign of Cyrus, 546–530 B. C. Many of these masons' marks consist of nonalphabetic symbols and letter forms characteristic of Anatolian epichoric scripts;<sup>47</sup> both of which types are paralleled by the types of symbols used as owners' marks on Gordion pottery (see Chart B. The Apadana at Susa, dating from the last quarter of the sixth century B. C., provides further examples of such marks, undoubtedly left by Anatolian workmen.<sup>48</sup> Anatolian masons evidently also worked in the construction of the Treasury at Persepolis, a building dating from the first quarter of the fifth century B. C. As at Pasargadae, the stone work here shows many affinities with Anatolian masonry styles, and the masons' marks provide additional instances of complex nonalphabetic marks repeating traditional Anatolian symbols.<sup>49</sup> Similarly the symbols used by the sculptors of the Persepolis reliefs include several marks which find parallels among the Gordion pottery marks.<sup>50</sup> All of these examples have been incorporated into Chart B.

A few of the devices on certain Anatolian coinages offer parallels with Gordion pottery marks. These

can be the main emblem of the coin or subsidiary motifs. As part of the original die, these form an official identifying badge of the city minting the coin. Among such devices, clear parallels are provided by the triskeles and tetraskesles of Lycia, which were used in Gordion both as postfiring graffiti and as stamps and graffiti applied before firing.<sup>51</sup> Other nonalphabetic symbols on Lycian and Cilician coins also occur on Gordion pottery.<sup>52</sup> These too are listed on Chart B.

Many more such emblems used as identifying marks are found among the countermarks which occur on coins known from many Anatolian sites, including Gordion.<sup>53</sup> These countermarks are overstrikes found on various types of coins which circulated in Anatolia in the mid-sixth century B. C. and during the period of Achaemenian dominance.<sup>54</sup> A list of those which are very close to the owners' marks on Gordion vases is given on Chart B.

Such countermarks occur on a variety of different coin types, although apart from a few coins of the Greek mainland, such as Athenian owls and Aeginetan staters, which circulated widely,<sup>55</sup> most are of Anatolian minting, and include Lydian Croeseids, coins minted by local Anatolian dynasts, Achaemenian darics and sigloi, and coins of the Greek cities in Anatolia.<sup>56</sup> The existence of such countermarks on coins uncovered in hoards demonstrates that they have no relation to the original device minted on the coin, for the same countermark can occur on coins of different origins. A frequent interpretation of the countermarks has been that they represent marks of

45. Gusmani (1975b) 67–73. Examples are found in the following marks from Sardis (the numbers refer to Gusmani's numbers): Sardis B I 3, 4, 5 (3) = 2A–159; B I 5 (1) = 2A–226; B I 5 (4) = 2A–154, 2A–209; B I 5 (5) = 2A–50, 2A–60, 2A–57, 2A–132, 2A–136, 2A–149, and 2A–72; B I 6 (9) = 2A–153; B I 6 (10) = 2A–102. The masons' marks noted on the Lydian acropolis also include a form identical to the J, one of the epichoric letters in the Phrygian alphabet. Gusmani (1975b) 73.

46. For other references to Anatolian craftsmen in Persia, see Kent (1953) 144, text DSf, lines 48–49; Nylander (1970) 144 and *passim*; and Nylander (1975) 317–323.

47. Stronach (1978) 21–22 and fold-out 1.

48. Nylander (1975) 322.

49. I am grateful to Carl Nylander for drawing my attention to the masons' marks at Susa and Persepolis. The information on the Persepolis Treasury marks is derived from the preliminary notes and drawings made by Professor Nylander. See also Roaf (1983) 92 and fig. 106.

50. Roaf (1983) 90–91, fig. 105. Roaf has suggested that these marks were left by individual sculptors who wished to sign their own work.

51. Lycian coins are illustrated in Kraay (1966) nos. 649, 656–660 (triskeles), 651 (tetraskesles). For these marks on graffiti and stamps done before firing at Gordion, see above, pp. 6–7. Graffiti done after firing: 2A–89, 2A–138, 2A–200.

52. Compare the symbols appearing on 1A–22 with a Lycian coin, Kraay (1976) no. 990, and on 2A–163 with a coin of Mallus, Kraay (1976) no. 1022.

53. An unpublished hoard of Persian sigloi found at Gordion in 1957, noted by Thompson, Mørkholm, and Kraay (1973) no. 1247, and currently in the Museum of Anatolian Civilizations in Ankara, was examined by the author, and the countermarks noted on these coins have been included in the comparanda. On the discovery of this hoard, see Young (1958) 141. There are also a few countermarks on a sixth century B. C. hoard of electrum coins from Gordion; see Bellinger (1968) 10–15, esp. 11 (on the hoard, see Thompson, Mørkholm, and Kraay [1973] no. 1176).

54. Collected and illustrated in: Babelon (1893) pl. 39; Newell (1914) 5, fig. 1; Hill (1919) 126; Hill (1922) cxxxvii; Noe (1956) pl. 15.

55. Newell (1914) 5 and Le Rider (1975) 32.

56. One hoard, found in Cilicia and dated to ca. 380 B. C. demonstrates the varied origins of these countermarked coins. The two most common issues were Athenian owls and Persian sigloi, in addition to coins of Syracuse, several Greek cities in Anatolia, Cyprus, Phoenicia, and satrapal issues, see Newell (1914) 1–5. A similar variety of coin types was also noted in a hoard now in Copenhagen, supposedly found in Lycaonia and dated to ca. 370 B. C. Mørkholm (1959) 184–200. Countermarks are also found on fourth century darics, usually in the form of letters and ligatures, see Babelon (1893) xviii–xx. Le Rider (1975) 27–56, gives a review of the character of countermarked coins and discusses possible interpretations of their meaning.

guarantee, stamped by bankers or issuing officials in the cities in which the coins circulated.<sup>57</sup> The occurrence of the same types of marks on Gordion pottery as are found in the coin countermarks suggests, however, that these marks are more likely to be owners' marks, a suggestion supported by the use of similar marks by Anatolian masons and also the presence of such marks on the Achaemenian stamp seals mentioned above.<sup>58</sup>

The dates of the countermarks are difficult to determine. While those on the Lydian Croeseids are of the mid-sixth century B. C., the countermarks on Achaemenian currency appear on coins minted from the late sixth through mid-fourth centuries. On these coins the countermark could have been made at any point while the coin was in circulation, but there is evidence to suggest that the practice became more common during the first half of the fourth century B. C.<sup>59</sup> Since the use of these same marks for purposes of identification is of earlier date, the implication seems to be that a set range of linear devices and symbols was known and offered a choice of readily recognized individual marks.

Nonalphabetic marks could also be used as horse brands. In Anatolia they appear on horses depicted on architectural terracottas.<sup>60</sup> A common choice is the triskeles, a characteristically Anatolian mark, which is frequently attested as a pottery mark at Gordion.

Thus the repeated occurrences of the same abstract marks in different contexts suggest that certain marks were known and recognized throughout Anatolia as forms of identification, both private and public. The sources which can be defined for these marks include their use in earlier periods in Anatolia, their use in other Anatolian scripts, and the repetition of well-known decorative patterns. Among other marks found on Gordion pottery, several appear to be part of an existing repertory of nonalphabetic symbols which circulated in Anatolia during the sixth through fourth centuries B. C.

The types of nonalphabetic symbols known from the Greek world provide an interesting comparison with the Gordion material and further illustrate the Anatolian character of many of the Gordion marks. Graffiti on pottery form one of the earliest types of writing known in the Greek world, starting in the mid-eighth century B. C.,<sup>61</sup> and much of the earliest graffiti consists of single letters, names, and other forms of personal identification scratched onto vessels by their owners. The use of nonalphabetic marks as owners' marks was evidently somewhat less common, for the concept of writing letters themselves seems to have been enough of a novelty to become the preferred form of identification.

Among the early examples of Greek graffiti, the material from Old Smyrna forms an instructive comparison.<sup>62</sup> The excavations at Old Smyrna produced six objects with graffiti from the eighth and early seventh centuries. Of these there are three examples of nonalphabetic marks, one of which finds a parallel among the Gordion material (cf. 2A-199).<sup>63</sup> There are an additional 44 examples of graffiti from the seventh and sixth centuries B. C., including a five-pointed star, three examples of the schematic branch, a swastika, two forms roughly paralleling Carian letters, and a form resembling a trident, all of which also occur among the owners' marks at Gordion.<sup>64</sup> These eleven instances of nonalphabetic marks are, however, the only examples out of a total of fifty graffiti. The remainder consists of single letters and alphabetic texts, which contrasts with the situation at Gordion, where the majority of owners' marks are nonalphabetic. Moreover, the parallels with the Anatolian symbols among the nonalphabetic owners' marks of Smyrna, especially the use of the branch sign and the marks resembling Carian letter forms, suggest that some of these few may have come to Smyrna from the interior of Anatolia.<sup>65</sup> Apart from Old Smyrna, relatively few nonalphabetic graffiti from other Greek sites in Anatolia have been pub-

57. Imhoof-Blumer (1902) 314. Mørkholm (1959) 200. Kraay (1976) 286. Le Rider (1975) 29-31, raises several objections to this hypothesis, noting the unofficial character of the countermarks and the questionable necessity of such official guarantee for coins circulating in the Achaemenian Empire close to their point of origin.

58. Boardman (1970) 24. Starr (1975) 79-80. Le Rider (1975) 29-30. Many of the countermarks found on the hoards of Cilicia and Lycaonia (above n. 56) are identical to those on the hoard of Persian sigloi from Gordion.

59. Of the two hoards discussed by Noe (1956), the later one has a much higher proportion of countermarked coins. Note also the two dated hoards mentioned in n. 56, and the observation of Kraay (1976) 286 that such countermarks ceased about 360 B. C.

60. Åkerström (1967) 219 fig. 70.1. On horse brands, see Martin (1892), and Jänichen (1956), especially plates 29 and 30. Also see

below, n. 68.

61. Jeffery (1961) 16-17.

62. Jeffery (1964) 39-49.

63. Compare this with the mark published by Jeffery (1964) 41, fig. 1, no. 9.

64. The star, Jeffery (1964) 41, fig. 1, no. 12; the branch, nos. 17, 34a, 44; swastika, no. 42; Carian letters, nos. 46, 47. The trident is found at Gordion both as a letter and in nonalphabetic symbols, see above pp. 36-39. The presence of Carian script in Old Smyrna is attested by a longer graffito, Jeffery's no. 23.

65. The influence of Anatolian writing systems in Old Smyrna is attested not only by the presence of the Carian script mentioned above, n. 70, but also by graffiti which are probably Lydian, Jeffery (1964) nos. 2, 39, and 40. See Gusmani (1975a) 149-153.

lished, and those which are known are usually of the fifth century B. C. or later,<sup>66</sup> making it difficult to determine how widespread the practice of using such owners' marks on pottery was.

Another body of nonalphabetic marks from the Greek world offers a comparison with Anatolian marks, the horse brands illustrated on Attic black-and-red-figure vases<sup>67</sup> and described on a series of lead tablets from the Kerameikos.<sup>68</sup> The Kerameikos tablets mention fifty-seven different brands and the vases illustrate a few more. Of these, seven consist of symbols which parallel the nonalphabetic marks known at Gordion, but for the most part they consist of simple and universally recognized symbols such as the cross, serpentine mark, and swastika.

There is, however, another important group of nonalphabetic marks in the Greek world, the commercial trademarks on Greek vases. The specific examples of commercial trademarks on Greek vases imported into Gordion will be discussed in part IIIA, but it is useful to consider at this point the general appearance of the signs used as commercial marks by Greek traders. Such marks appear on sixth century pottery of several East Greek cities, including Rhodes, Chios, and Samos,<sup>69</sup> although very few are found in the Greek cities of Anatolia itself.<sup>70</sup> The earliest examples of trademarks on Attic pottery are for the most part single letters and monograms, although more complex symbols and nonalphabetic marks of the type found at Gordion become common in the latter part of the sixth century;<sup>71</sup> they seem to have been less frequently used later. It seems unlikely that there is any direct connection with the Anatolian repertory of marks. Almost all Attic trademarks occur on vases exported to Italy or North Africa. The types of nonalphabetic marks used are generally the most basic and widely used symbols, such as the swastika and the star. Nonetheless, it is interesting that the chronological period when symbols were most frequently used as commercial trademarks corresponds to a time when such nonalphabetic symbols are common as owners' marks at Gordion. It has been argued that the practice of using nonalphabetic owners' marks in Anatolia, on coins and seals as well

as pottery, may derive from the spread of Greek commercial trademarks,<sup>72</sup> but this can hardly have been a major source for the nonalphabetic owners' marks of Gordion. Not only are there many parallels between the Gordion marks and marks of the Anatolian Bronze Age, but there are also a number of Gordion vases from the early Iron Age with marks which antedate extensive commercial contact with the Greek world. Even after Greek pottery became more common in Gordion, we find no Greek imports with commercial trademarks before the fourth century B. C.<sup>73</sup> Nonalphabetic trademarks do occur fairly frequently, however, on the pottery of Rhodes and Chios, and pottery from both of these places was imported into Gordion during the sixth century (although none of the surviving examples have trademarks). It is possible that knowledge of nonalphabetic marks used to indicate ownership, even if of a commercial rather than a private nature, may have been one factor which made the practice of marking pottery at Gordion with signs and symbols rather than letters acceptable, even after alphabetic writing was in use.

In summary, the frequent use of nonalphabetic marks on pottery reflects several aspects of the life at Gordion. The more elaborate marks almost seem to be an alternative form of literacy. Their use probably antedates widespread knowledge of the alphabet, and they continued after alphabetic writing was known, in some cases even involving forms which also appear as letters in the Phrygian script. The tradition of using nonalphabetic marks as a means of identification on other types of objects in Anatolia may have reinforced this practice, for there was evidently a general repertory of such recognizable marks which were acknowledged to serve as badges of personal identification, in lieu of a written (or abbreviated) name. The actual choice of a mark may have been influenced by the Anatolian background of several marks, their appearance as letter forms in various Anatolian scripts and as owners' marks on other types of objects, and the knowledge of the Greek practice of using nonalphabetic marks as owners' marks and commercial trademarks. Very

66. Nonalphabetic marks have been noted at Troy, Blegen (1958) 189 fig. 271, no. 26, a bowl of the early first millennium; and Labraunda, Hellström (1965) 47–48, nos. 38, 51, 53, all on vessels of the fourth century B. C. There are also a few on Attic pieces of the fifth century B. C. from Old Smyrna, Boardman (1958–1959) 178–180, nos. 185, 192, 196, 201.

67. For examples, see Lullies (1971) 47 n. 16.

68. Braun (1970) 198–269, esp. 256–267.

69. Boardman and Hayes (1966) 45–46, fig. 22; Johnston (1975b) 145–167, nos. 8–32; Johnston (1979) 173–176; Gjerstad *et al.* (1935) II, pl. 77.1, fig. 298.31.

70. Johnston (1979) 19.

71. Johnston (1979), types 34–41 A, 19–26 B; for the date see p. 193, and Johnston's commentary on type 40 A. Even during this time the number of vases marked with nonalphabetic symbols is small in comparison to those with alphabetic marks.

72. Boardman (1970) 25.

73. A few Greek sherds of the late eighth and seventh centuries have been found at Gordion, see DeVries (1980b) 33, n. 4, and a variety of Greek wares is found at the site from the sixth century B. C. on.

simple marks, such as lines, X's, and simple patterns of straight and curved lines, are also frequently found on pottery. These may have been the ownership marks of people less familiar with the broader range of Anatolian symbols, and represent an even simpler form of personal identification.

Another factor at work in the choice and frequency of these vase marks has been only briefly mentioned, the Phrygians' fondness for abstract patterns. The use of intricately involved geometric designs occurs over and over again on a variety of artifacts from Gordion, on wooden furniture, on textiles, and in the rich geometric repertory of the painted pottery.<sup>74</sup> This discussion has stressed the parallels for the use of nonalphabetic marks in Anatolia and the practical value of having easily recognized symbols, but the

aesthetic value of many of the marks, which combine the symbols into intricate patterns, should also be recognized. This may be another reason why such marks continually recur at Gordion and why their use persisted long after alphabetic writing had been introduced.

After the middle of the fourth century B. C., the incidence of nonalphabetic symbols among the owners' marks decreases. This may result from the presence of a larger number of Greek speakers in the city,<sup>75</sup> who did not have as strong a tradition of using nonalphabetic symbols for personal identification, or from the greater literacy of the population, attested in the increasing use of letter forms, which made linear marks unnecessary.

## Catalogue

### *Nonalphabetic Symbols (2A-1 to 2A-230)*

#### **2A-1 Wall sherd of buff vessel**

P 4356 CM-under floor of TB 7

0.148 x 0.116 m.

Fig. 4; Pl. 3

Three joining sherds from wall of coarse buff-brown closed vessel.

Graffito on exterior surface: star with two small concentric circles in center

Second half of the 8th century B. C.

#### **2A-2 Rim of orange bowl**

I 650 CM-Meg. 12

Max. dim. 0.100; Est. D. rim 0.27 m.

Fig. 4

Rim and wall of large orange polished bowl. Plain vertical rim, slightly thickened inward.

Graffito on exterior wall below rim: three parallel vertical lines crossed by three horizontal lines

Second half of the 8th century B. C.

#### **2A-3 Gray ware sherd**

I 649 CM-Meg. 10

Max. dim. 0.053 m.

Fig. 4

Sherd from wall of closed gray ware vessel, exterior surface polished.

Graffito on exterior: triangle with central vertical line perpendicular to base

8th century B. C.

#### **2A-4 Base of gray polished bowl**

P 3374 CM-Meg. 9

0.066 x 0.055 m.

Fig. 4

Center section of gray polished bowl with low pedestaled foot.

Graffito on floor: lines radiating out from central point to form asterisk

8th century B. C.

#### **2A-5 Base of gray ware bowl**

I 647 CM-fill between Meg. 9 and 10

Max. dim. 0.080; D. foot 0.067 m.

Fig. 4

Base of gray polished bowl with ring foot.

Graffito on floor: irregular asterisk pattern

8th century B. C.

#### **2A-6 Base of gray ware bowl**

I 646 CM-fill between Meg. 9 and 10

Max. dim. 0.069; D. foot 0.061 m.

Fig. 4

Base of gray polished bowl with concave disk foot.

Graffito on floor: irregular asterisk pattern

8th century B. C.

74. Young (1981) figs. 29, 33, 39, 42, 104, 110, 111, 129 (wood); 144-148 (textiles). Sams (1973) 583-589 (pottery). See also Boehmer (1973) 149-172.

75. The fact that the Greek language became more common in

Gordion after the mid-fourth century B. C. is indicated not only by the increasing use of the Greek alphabet (see pp. 39-40), but also in the frequent occurrences of graffiti in the Greek language.

**2A-7 Black polished dinos<sup>76</sup>**

P 1830 Tumulus MM 370, inside cauldron MM 3  
H. 0.184; D. rim 0.135; D. base 0.086 m.

Fig. 4; Pl. 3

Black polished ellipsoidal dinos with disk foot and everted flat-topped rim. Exterior surface rotting.

Graffito on side of vessel: branch

First quarter of the 7th century B. C.

**2A-8 Black polished dinos<sup>77</sup>**

P 1822 Tumulus MM 361, inside cauldron MM 1  
H. 0.221; D. 0.244; D. rim 0.147 m.

Fig. 4

Black polished spherical dinos with flat base and everted flat-topped rim. Exterior surface rotting.

Graffito on underside of base: X

First quarter of the 7th century B. C.

**2A-9 Red bowl**

P 2667 CM-Meg. 3

H. 0.074; D. rim 0.276; D. foot 0.100 m.

Fig. 4

Large red bowl with ring foot and plain rim, burned.

Graffiti on center of floor: star; and on underside of base: latticing

First quarter of the 7th century B. C.

**2A-10 Base of black polished vessel**

I 335 CM-Meg. 4 terrace

D. foot 0.046 m.

Fig. 5

Base of small closed black polished vessel with ring foot.

Graffito on underside of base: X X enclosed by horizontal lines above and below

First quarter of the 7th century B. C.

**2A-11 Buff polished bowl**

P 2701 CM-Meg. 3

H. 0.064; Est. D. rim 0.260; D. foot 0.085 m.

Fig. 5

Buff polished bowl with low ring foot and slightly inturned rim, burned.

Graffito on underside of base: cross

First quarter of the 7th century B. C.

**2A-12 Buff polished bowl**

I 648 CM-Meg. 2, room 3

Max. dim. 0.213; Est. D. rim 0.31; D. foot 0.103 m.

Fig. 5

Large shallow bowl, originally buff-brown polished fabric, burned black. Ring foot, plain rim. Mended from several fragments.

Graffito on underside of base: latticing

First quarter of the 7th century B. C.

**2A-13 Black polished bowl**

I 255 CM-Meg. 4

Max. dim. 0.167; D. foot 0.076 m.

Fig. 5

Large black polished bowl with disk foot, raised ring edge on foot.

Graffito on underside of base: latticing enclosed by irregular circle

First quarter of the 7th century B. C.

**2A-14 Biconical jug**

P 2021 CM-TB 4

H. 0.081; D. 0.095 m.

Fig. 5

Buff jug, surface discolored by burning, with pedestaled foot, cylindrical body with biconical upper and lower sections, stub of vertical roll handle.

Graffito on shoulder: arc which curves to left with short line extending to lower right; at right, two more left-curving arcs

First quarter of the 7th century B. C.

**2A-15 Red polished bowl**

P 3067 CM-TB 3

H. 0.078; D. bowl 0.264; D. foot 0.096 m.

Fig. 5

Coarse red polished bowl with offset base and inturned rim.

Graffito on underside, near edge of base: small compass-drawn circle

First quarter of the 7th century B. C.

**2A-16 Red painted trefoil jug**

P 2340 CM-TB 5

0.128 x 0.114 m.

Fig. 5

Lip, neck, and shoulder of red painted trefoil jug.

Graffito on upper of part of shoulder: three holes deeply drilled

First quarter of the 7th century B. C.

**2A-17 Red painted bowl**

P 2380 CM-TB 3

H. 0.068; D. rim 0.220; D. foot 0.088 m.

Fig. 5

Red painted bowl with vertical rim offset on interior, ring foot. Center of base sags below ring foot.

Graffito on underside of base: latticing

First quarter of the 7th century B. C.

**2A-18 Red painted bowl**

P 2422 CM-TB 3

H. 0.073; D. rim 0.242; D. foot 0.087 m.

Fig. 5

Red painted bowl with low ring foot, plain rim.

Graffito on underside of base: irregular latticing

First quarter of the 7th century B. C.

**2A-19 Red polished bowl**

P 2423 CM-TB 3

H. 0.075; D. rim 0.253; D. foot 0.093 m.

Fig. 6

Red painted and polished bowl with low ring foot, plain rim.

Graffito on underside of base: latticing

First quarter of the 7th century B. C.

**2A-20 Red polished bowl**

P 2448 CM-TB 3

H. 0.056; Est. D. rim 0.245; D. foot 0.082 m.

Fig. 6

Red polished bowl with low ring foot, plain rim, ridge on exterior below rim.

Graffito on underside of base: latticing; irregular circle incised around foot on lower wall

First quarter of the 7th century B. C.

76. Young (1981) 174, MM 370.

77. Young (1981) 173, MM 361.

**2A-21 Red painted bowl**

P 2541 CM-TB 3  
H. 0.071; D. rim 0.260; D. foot 0.107 m.  
Fig. 6

Red painted bowl with plain rim and ring foot.  
Graffito on underside of base: latticing  
First quarter of the 7th century B. C.

**2A-22 Red painted bowl**

P 3068 CM-TB 6  
H. 0.054; D. rim 0.240; D. foot 0.076 m.  
Fig. 6

Red polished and painted bowl with low ring foot and thickened, offset rim.  
Graffito on interior of bowl: latticing  
First quarter of the 7th century B. C.

**2A-23 Red painted bowl**

P 3069 CM-TB 6  
H. 0.063; D. rim 0.236; D. foot 0.077 m.  
Fig. 6

Red painted and polished bowl with low ring foot and inward thickened offset rim; burned.  
Graffito on interior of bowl: careless latticing  
First quarter of the 7th century B. C.

**2A-24 Red polished bowl**

P 3304 CM-TB 7  
H. 0.054; D. rim 0.235; D. foot 0.085 m.  
Fig. 6

Red polished bowl with low ring foot and carinated rim.  
Graffito on interior of bowl: latticing  
First quarter of the 7th century B. C.

**2A-25 Red polished bowl**

P 3305 CM-TB 7  
H. 0.072; D. rim 0.243; D. foot 0.089 m.  
Fig. 6

Red polished bowl with low ring foot, and inward and outward thickened rim offset on interior.  
Graffito on interior of bowl: latticing  
First quarter of the 7th century B. C.

**2A-26 Red trefoil jug**

P 3843 CM-TB 8  
H. 0.378; D. body 0.312 m.  
Fig. 7

Red polished jug with flat bottom, ovoid body, trefoil mouth, vertical strap handle; burned.

Graffiti, on wall, below and to the left of handle zone: arc covered with irregular scratches; and to right of handle zone: scratches in irregular lattice pattern  
First quarter of the 7th century B. C.

**2A-27 Buff pedestaled bowl**

P 4658 CM-CC-3  
0.18 x 0.105; Est. D. foot 0.06 m.  
Fig. 7

Center of floor and foot of reddish buff bowl; pedestaled foot has spreading resting surface with central depression.

Graffito on underside of foot: star  
First quarter of the 7th century B. C.

**2A-28 Wall sherd of closed vessel**

P 191 Tumulus D, house debris under mantle  
0.094 x 0.059 m.  
Fig. 7

Sherd from wall of large, coarse gray ware closed vessel.  
Graffito on exterior surface: star  
Before mid-6th century B. C.

**2A-29 Buff trefoil jug**

P 801 KH-Room 1  
H. 0.345; D. 0.28 m.  
Fig. 7

Buff jug with flat bottom and ovoid body, neck offset from shoulder by two ridges. Trefoil lip, broad strap handle.

Graffito on upper part of handle, near join to neck: six-pointed asterisk  
Second quarter of the 6th century B. C.

**2A-30 Buff handle**

I 87 KH-Room 1  
PL. 0.090; W. 0.048 m.  
Fig. 7

Broad vertical strap handle of large buff vessel.  
Graffito on upper part of handle, near join to neck: six-pointed asterisk  
Second quarter of the 6th century B. C.

**2A-31 Base of buff vessel**

I 67 KH-Room 1  
D. foot 0.055 m.  
Fig. 7

Base of buff closed vessel with spreading ring foot.  
Graffito on underside of base: star  
Second quarter of the 6th century B. C.

**2A-32 Lydion**

P 531 KH-balcony  
H. 0.087; D. body 0.078; D. rim 0.080 m.  
Fig. 7

Lydion, probably Lydian fabric, with narrow foot, bulbous body, flaring neck, broad flat rim. Glazed brown (or purple) bands on buff fabric, partially misfired.

Graffito on flat upper surface of rim: three diagonal lines slanting from lower left to upper right, the right two of which are crossed by a horizontal line; another diagonal line on opposite side of rim  
Second quarter of the 6th century B. C.

**2A-33 Base of black polished bowl**

P 3131 CM-railroad dyke  
0.125 x 0.102 D. foot 0.098 m.  
Fig. 7; Pl. 3

Base and small part of lower wall of black polished bowl with ring foot.

Graffiti, on interior floor: faint lines radiating from center like asterisk; and on underside of base: an eight-pointed asterisk with a trident pattern on each end  
First half of the 6th century B. C.

**2A-34 Black polished fruit stand**

P 4492 CM-CC3-E  
Max. dim. (P 4492a) 0.190; Max. dim. (P 4492b) 0.245; Est. D. bowl 0.31 m.  
Fig. 7

Two nonjoining fragments from bowl of black polished fruit stand.

Graffito on P 4492a floor, extending from center of floor towards rim: line with V on either end  
First half of the 6th century B. C.

**2A-35 Black polished handle**

I 97 CM-Gate-S  
PL. 0.064; W. 0.023 m.  
Fig. 7

Vertical strap handle of black polished jug, rectangular section.

Graffiti in vertical row on exterior of handle: two concentric circles with irregular central cross; two overlapping rectangles forming a cross

Second half of the 6th century B. C.

**2A-36 Black polished bowl**

I 94 CM-Gate-S

H. 0.031; D. rim 0.132 m.

Fig. 8

Black polished bowl with plain rim and horizontally faceted exterior. May originally have had pedestaled foot, now missing.

Graffiti, on exterior wall and on floor to one side of center: latticing

Second half of the 6th century B. C.

**2A-37 Black polished bowl**

I 95 CM-Gate-S

H. 0.044; Est. D. rim 0.15; D. foot 0.053 m.

Fig. 8

*Circa* one-third of black polished bowl with disc foot.

Graffiti on interior floor: three crosses; and on exterior wall around foot: two crosses, square

Second half of the 6th century B. C.

**2A-38 Base of black polished vessel**

I 38 Tumulus E, under mantle

0.073 x 0.053; D. foot 0.066 m.

Fig. 8

Base of closed black polished vessel with ring foot.

Graffito on underside of foot: branch

Before end of the 6th century B. C.

**2A-39 Black polished bowl**

I 37 Tumulus E, tumulus mantle

H. 0.030; Est. D. rim 0.13; Est D. foot 0.04 m.

Fig. 8

*Circa* one-quarter of shallow black polished bowl with disc foot.

Graffiti on underside of foot: Ψ; and on exterior wall, extending from foot to rim: zigzag line, lower angles connected by horizontal line

Before end of the 6th century B. C.

**2A-40 Base of gray polished vessel**

I 615 Tumulus E, tumulus mantle

Max. dim. 0.119; Est. D. foot 0.085 m.

Fig. 8

Base and part of lower walls of large gray polished closed vessel, probably round jar, with very broad ring foot.

Graffito on underside of base, within ring foot: branch

Before end of the 6th century B. C.

**2A-41 Sherd of gray ware storage vessel**

I 609 Tumulus E, tumulus mantle

0.150 x 0.130 m.

Fig. 9

Wall sherd, broken all around, of large gray ware storage vessel. Slight outward curvature at top.

Graffito on exterior surface: irregular polygon with superimposed cross

Before end of the 6th century B. C.

**2A-42 Gray ware bowl**

I 614 Tumulus E, tumulus mantle

Max. dim. 0.075; Est. D. rim 0.12 m.

Fig. 9

Sherd comprising section of rim and wall from gray ware bowl, plain rim.

Graffiti on exterior wall: two vertical lines crossed by a horizontal line; cross

Before end of the sixth century B. C.

**2A-43 Base of black polished bowl**

I 5 Tumulus E

Max. dim. 0.065; Est. D. foot 0.07 m.

Fig. 9

Base of gray ware bowl with ring foot, interior black polished.

Graffito on underside of base: vertical line, X, three parallel vertical lines

Before end of the 6th century B. C.

**2A-44 Base of black polished bowl<sup>78</sup>**

I 610 Tumulus E

0.065 x 0.041; Est. D. foot 0.07 m.

Fig. 9

Base and part of lower wall of black polished bowl with ring foot. Very fine polish.

Graffito on underside of base: branch

Before end of the 6th century B. C.

**2A-45 Base of gray ware bowl**

I 612 Tumulus E

0.055 x 0.042; Est. D. foot 0.06 m.

Fig. 9

Base of gray ware bowl with ring foot.

Graffito on underside of base: branch

Before end of the 6th century B. C.

**2A-46 Gray ware storage jar**

I 84 Common cemetery under Tumuli H and I

PH. 0.137; W. handle 0.049 m.

Fig. 9

Neck, shoulder, and vertical strap handle of large closed gray ware storage jar.

Graffiti on outer surface of handle, incised in a vertical row starting below widest curve of handle: pentagon, cross, arrow

6th century B. C.

**2A-47 Gray polished bowl**

P 2404 CM-Bldg. D, fill of drain

H. 0.046; Est. D. rim 0.17; Est D. foot 0.06 m.

Fig. 9

*Circa* one-third of shallow gray polished bowl with ring foot.

Graffiti, on underside of base and on wall above foot: series of zigzag lines

6th century B. C.

**2A-48 Black polished handle**

I 306 CM-TB7-B

PL. 0.088; W. 0.028 m.

Fig. 9

Vertical strap handle of coarse black polished jug.

Graffito on outer side of handle: latticing

6th century B. C.

**2A-49 Lydion**

P 2715 Museum Site, surface

H. 0.148; D. rim 0.115; D. body 0.147 m.

Fig. 9

Large lydion of Lydian fabric, glazed red and black in marbled pattern.

78. Brixhe and Lejeune (1984) G-273. Brixhe and Lejeune read this graffito as ik.

Graffito on flat upper surface of rim: two diagonal lines slanting from lower left to upper right, at left a shorter diagonal line, all three crossed by a horizontal line  
6th century B. C.

**2A-50 Gray ware pedestaled bowl**

I 289 CM-TB7-B  
Max. dim. bowl 0.095; PH. pedestal 0.040 m.  
Fig. 9

Floor and part of pedestaled foot of gray ware open dish, perhaps fruitstand.

Graffito on center floor: swastika turning towards left  
6th century B. C.

**2A-51 Black polished jug**

P 3215 CM-M5-E, South Cellar  
H. 0.13; D. 0.103; D. foot 0.046 m.  
Fig. 9

Black polished round-mouthed jug with ring foot, horizontally faceted body, vertical side-attached strap handle.

Graffito on underside of base: star

Date: 6th century—first quarter of the 4th century B. C.  
See **2B-19** for letter graffito.

**2A-52 Red painted bowl**

I 617 CM-M6-C, South Cellar  
0.086 x 0.060 m.  
Fig. 9

Rim sherd of shallow bowl with vertical rim. Exterior solidly painted red; interior has red and black painted bands on buff clay.

Graffito on exterior wall: compass-drawn circle  
6th century—first quarter of the 4th century B. C.

**2A-53 Base of black polished bowl**

I 619 CM-M6-A, M6-C, M5-J, South Cellar  
0.074 x 0.069; D. foot 0.065 m.  
Fig. 9

Base and part of lower walls of black polished bowl with ring foot; underside of base fired gray.

Graffito on underside of base: two branches, parallel to one another, horizontal zigzag pattern on wall above foot  
6th century—first quarter of the 4th century B. C.

**2A-54 Base of gray ware vessel**

I 620 CM-M6-A, M6-C, M5-J, South Cellar  
D. foot 0.050 m.  
Fig. 9

Disk foot from closed gray ware vessel, exterior surface of foot fired black.

Graffito on underside of foot: eight lines radiating out from center and enclosed by irregular circle, forming wheel  
6th century—first quarter of the 4th century B. C.

**2A-55 Base of gray polished vessel**

I 616 CM-M6-C, South Cellar  
PH. 0.043; D. foot 0.063 m.  
Fig. 10

Base and lower walls of large gray polished closed vessel with concave disk foot.

Graffiti, on underside of foot: branch; and on either side of wall just above foot: branches; the three branches run in a more or less continuous line

6th century—first quarter of the 4th century B. C.

**2A-56 Base of black polished bowl**

I 618 CM-M6-A, M6-C, M5-J, South Cellar  
PH. 0.036; D. foot 0.043 m.  
Fig. 10

Base and lower walls of closed black polished vessel with concave disk foot.

Graffito on underside of foot: star with superimposed latticing

6th century—first quarter of the 4th century B. C.

**2A-57 Black polished vessel**

I 350 CM-M6-C, South Cellar  
0.070 x 0.070; D. foot 0.054 m.  
Fig. 10

Base and lower wall of black polished closed vessel, exterior surface horizontally faceted.

Graffito on underside of base: swastika

6th century—first quarter of the 4th century B. C.

**2A-58 Base of black polished bowl**

I 348 CM-M6-C, South Cellar  
Max. dim. 0.074; D. foot 0.037 m.  
Fig. 10; Pl. 3

Base and lower walls of fine black polished bowl with concave disk foot.

Graffiti, on underside of base: squared X; on exterior wall above foot: curved lines, cross with triangles on right side of each arm, opposite this, Y

6th century—first quarter of the 4th century B. C.

**2A-59 Black polished bowl**

I 349 CM-M6-C, South Cellar  
H. 0.042; D. rim 0.142; D. foot 0.057 m.  
Fig. 10

Circa two-thirds of black polished bowl with disk foot and plain rim.

Graffiti on exterior surface: line on exterior extending from rim to rim across base; on wall above base, inverted V with vertical line extending down from central point, and with two diagonal lines extending from ends of V to central vertical line creating arrowhead pattern

6th century—first quarter of the 4th century B. C.  
See **2B-22** for letter graffito.

**2A-60 Black polished handle**

I 342 CM-M6-A, South Cellar  
PL. 0.078; W. 0.027 m.  
Fig. 10

Lower part of vertical strap handle of black polished jug, rectangular section.

Graffito on lower part of handle: swastika

6th century—first quarter of the 4th century B. C.

**2A-61 Base of black polished bowl**

I 330 CM-M5-E, South Cellar  
Max. dim. 0.083; D. foot 0.046 m.  
Fig. 10

Base and lower walls of black polished bowl with disk foot.

Graffiti, on floor: cross; and on underside of base: X

6th century—first quarter of the 4th century B. C.

**2A-62 Base of black polished bowl**

I 317 CM-M5-E, South Cellar  
D. foot 0.061 m.  
Fig. 10

Base of black polished bowl with ring foot.

Graffito on underside of base: butterfly

6th century—first quarter of the 4th century B. C.

**2A-63 Rim of black polished bowl**

I 314 CM-M5-E, South Cellar  
0.054 x 0.048; Est. D. rim 0.150 m.  
Fig. 10

Rim fragment of black polished bowl.

Graffiti on exterior wall: vertical line with superimposed erect and inverted V's, three vertical lines to right  
6th century—first quarter of the 4th century B. C.



**2A-64 Black polished bowl**

I 311 CM-M5-E, South Cellar  
Max. dim. 0.085; D. foot 0.064 m.  
Fig. 10

Black polished bowl with ring foot.  
Graffito on underside of base: star  
6th century—first quarter of the 4th century B. C.

**2A-65 Base of black polished bowl**

I 309 CM-M5-F, clay between North and South Cellars  
Max. dim. 0.066; D. foot 0.046 m.  
Fig. 10

Base of black polished bowl with disk foot.  
Graffito on underside of base: branch  
6th century—first quarter of the 4th century B. C.

**2A-66 Black polished bowl**

I 301 + I 315 CM-M5-E, South Cellar  
H. 0.032; D. rim 0.130; D. foot 0.048 m.  
Fig. 11

*Circa* half of black polished bowl with squared flat-topped rim and concave disk foot.

Graffiti on floor: three crosses; on underside of base: X with small circle in each quadrant; on wall: irregular latticing, X to the left.

6th century—first quarter of the 4th century B. C.  
See **2B-25** for letter graffito.

**2A-67 Black polished bowl**

I 300 CM-M5-E, South Cellar  
H. 0.033; D. rim 0.121; D. foot 0.045 m.  
Fig. 11

Black polished bowl with concave disk foot.

Graffiti, on underside of foot: letters *a r m a m*; and on exterior wall above foot: series of curved lines joined to form petal pattern

6th century—first quarter of the 4th century B. C.

**2A-68 Black polished bowl**

I 298 CM-M5-E, South Cellar  
H. 0.035; D. rim 0.141; D. foot 0.054 m.  
Fig. 11

Black polished bowl with plain rim, handle lugs and ring foot.

Graffito on underside of base: X enclosed by rectangle  
6th century—first quarter of the 4th century B. C.

**2A-69 Base of gray ware vessel**

I 307 CM-M5-F, clay between North and South Cellars  
Max. dim. 0.081; Est. D. foot 0.069 m.  
Fig. 11

Base and lower walls of coarse gray ware vessel with ring foot.

Graffito on underside of base: irregular triangle with superimposed cross

6th century—first quarter of the 4th century B. C.

**2A-70 Black polished jug**

P 3379 CM-M6-C, South Cellar  
H. 0.151; D. body 0.102 m.  
Fig. 11

Black polished round-mouthed jug with spreading pedestal foot, squat spherical body, wide flaring mouth, vertical side-attached strap handle. Finely polished.

Graffito on body below handle attachment: star  
6th century—first quarter of the 4th century B. C.

**2A-71 Gray ware jug**

P 3424 CM-M6-A, South Cellar  
PH. 0.155; D. neck 0.076; W. handle 0.035 m.  
Fig. 11

Shoulder, neck, rim, and handle of coarse gray ware jug.

Graffito on upper side of handle near join to shoulder: X crossed with several short horizontal lines  
6th century—first quarter of the 4th century B. C.  
See **3B-10** for capacity mark.

**2A-72 Black polished jug**

P 3427 CM-M6-C, South Cellar  
PH. 0.096; Est. D. 0.123; D. foot 0.058 m.  
Fig. 11

Base and part of body of black polished jug with ring foot, round body, side-attached handle; alternating diamond and triangle pattern incised on body, raised lozenges within diamond pattern. Finely polished.

Graffito on underside of base: swastika, two of its arms extended to form closed box pattern  
6th century—first quarter of the 4th century B. C.

**2A-73 Black polished bowl**

P 3400 CM-M6-C, South Cellar  
H. 0.041; D. rim 0.160; D. foot 0.070 m.  
Fig. 11

Black polished bowl with low ring foot and raised, ledged rim.

Graffito on underside of base: latticing  
6th century—first quarter of the 4th century B. C.  
See **2B-27** for letter graffito.

**2A-74 Base of gray ware bowl**

I 325 CM-M5-E, South Cellar  
Max. dim. 0.070; D. foot 0.050 m.  
Fig. 12

Base of gray ware bowl with concave disk foot.

Graffiti on underside of base: latticing; and on lower walls: rays extending out from foot.

6th century—first quarter of the 4th century B. C.

**2A-75 Sherd of black polished bowl**

I 324 CM-M5-E, South Cellar  
0.045 x 0.032 m.  
Fig. 12

Sherd from lower wall of black polished bowl.

Graffiti on exterior surface: two curved lines which meet in V pattern, small loop below each; to the right, two vertical lines connected by small horizontal line

6th century—first quarter of the 4th century B. C.

**2A-76 Black polished bowl**

I 320 CM-M5-E, South Cellar  
0.101 x 0.051; Est. D. rim 0.12 m.  
Fig. 12

Section of rim, wall, and base ring of small black polished bowl with ring foot.

Graffiti on exterior surface: two vertical lines, irregular latticing; to right, more heavily incised, cross and two vertical lines

6th century—first quarter of the 4th century B. C.

**2A-77 Base of black polished bowl**

I 322 CM-M5-E, South Cellar  
0.057 x 0.049; Est. D. foot 0.07 m.  
Fig. 12

*Circa* one-third of base of black polished bowl with low disk foot.

Graffito on underside of base: zigzag lines

6th century—first quarter of the 4th century B. C.

**2A-78 Black polished handle**

I 312 CM-M5-E, South Cellar  
PL. 0.064; W. 0.021 m.  
Fig. 12

Vertical strap handle of black polished jug, rectangular section.

Graffito on exterior surface: vertical row of three deeply incised dots

6th century—first quarter of the 4th century B. C.

**2A-79 Base of black polished bowl**

I 313 CM-M5-E, South Cellar

Max. dim. 0.087; D. foot 0.078 m.

Fig. 12

Base of black polished bowl with broad ring foot, under-surface of foot concave.

Graffito on underside of base: latticing

6th century—first quarter of the 4th century B. C.

**2A-80 Base of gray polished bowl**

I 308 CM-M5-F, clay between North and South Cellars

D. foot 0.068 m.

Fig. 12

Base of gray polished bowl with ring foot.

Graffito on floor of bowl: irregular asterisk

6th century—first quarter of the 4th century B. C.

See **2B-24** for letter graffito.

**2A-81 Base of black polished bowl**

I 303 CM-M5-E, South Cellar

D. foot 0.059 m.

Fig. 12

Base of black polished bowl with concave disk foot.

Graffiti on floor: irregular latticing; and on underside of foot: irregular pattern of horizontal and vertical lines

6th century—first quarter of the 4th century B. C.

**2A-82 Black polished bowl**

I 299 CM-M5-E, South Cellar

H. 0.034; D. rim 0.157; D. foot 0.063 m.

Fig. 12

Black polished bowl with high flaring ring foot; foot made separately and attached later.

Graffito on underside of base: irregular polygon

6th century—first quarter of the 4th century B. C.

**2A-83 Black polished bowl**

I 621 CM-M6-A, M6-C, M5-J, South Cellar

H. 0.038; Est. D. rim 0.11; Est. D. foot 0.05 m.

Fig. 12

Fragment, preserving complete profile, of black polished bowl with disk foot and plain rim, indentation on exterior wall below rim.

Graffito on exterior wall: zigzag lines under rim and above foot running in opposite directions, connected by vertical line at point of widest separation

6th century—first quarter of the 4th century B. C.

**2A-84 Black polished bowl**

I 351 CM-M6-C, South Cellar

H. 0.048; Est. D. rim 0.17; Est. D. foot 0.07 m.

Fig. 12

*Circa* one quarter of black polished bowl with ledged rim and ring foot.

Graffiti, on underside of base: arc surmounted by series of curved lines which join to form petal pattern; on wall: irregular polygon; below this, small circle with vertical line extending down from it; and on interior: vertical line surmounted by short horizontal line

6th century—first quarter of the 4th century B. C.

**2A-85 Black polished bowl**

P 2724 CM-W2S4

H. 0.038; D. bowl 0.133; D. foot 0.049 m.

Fig. 13

Small black polished bowl with concave disk foot and angular, slightly inturned rim.

Graffiti, on underside of base: two horizontal zigzag lines connected by vertical line which ends in small inverted V; and on exterior wall: three diagonal lines on either side of foot, inverted U under one set of lines

6th century—first half of the 4th century B. C.

**2A-86 Black polished side-spouted jug**

P 1248 CM-ETO-13

H. 0.13; D. rim 0.09; Est. D. foot 0.045 m.

Fig. 13

Small black polished jug or drinking vessel with ring foot, vertically ribbed body, slightly flaring neck, flat everted rim with raised outer edge. High-swung side-attached vertical strap handle; at right angle to this, sieved trough spout flaring slightly at end. Finely polished.

Graffito on underside of base: two X's bounded by horizontal lines above and below

6th century—first half of the 4th century B. C.

**2A-87 Fragment of gray ware pithos**

P 2622 CM-SET

PH. 0.135; Est. D. rim 0.355 m.

Fig. 13

*Circa* one-third of shoulder and thickened, everted rim of gray ware pithos. Ridge on upper part of shoulder.

Graffito on shoulder below ridge, to right of capacity mark: crescent

6th century—first half of the 4th century B. C.

See **3B-12** for capacity mark.

**2A-88 Miniature black polished jug**

P 3194 CM-TB7-B

H. 0.042; D. body 0.058; D. foot 0.028 m.

Fig. 13

Miniature black polished jug with flat bottom, spherical body, round mouth, vertical strap handle.

Graffito on underside of base: inverted V with small loop above point

6th century—first half of the 4th century B. C.

**2A-89 Foot of black polished fruit stand**

P 2772 CM-TBT-7B

PH. 0.167; D. base 0.176 m.

Fig. 13

Pedestaled foot and horizontally ribbed stem of black polished fruit stand.

Graffiti on underside of foot: two triskeles, each on opposite sides of hollow stem

6th century—first half of the 4th century B. C.

**2A-90 Black polished fruit stand**

I 636 CM-ETC

Max. dim. floor 0.092; PH. 0.029 m.

Fig. 13

Fragment from floor and upper part of stem of black polished fruit stand.

Graffito on floor: rectangle with central vertical line; at right, vertical and horizontal rectangles creating T

6th century—first half of the 4th century B. C.

**2A-91 Base of gray ware vessel**

P 3803 CM-TBW-3

Max. dim. 0.063; D. foot 0.052 m.

Fig. 13

Base and small part of lower wall of closed gray ware vessel with concave disk foot.

Graffito on underside of foot: branch

6th century—first half of the 4th century B. C.

**2A-92 Black polished jug**

I 637 CM-WS-10, M7-H  
PH. 0.059; PW. 0.059; PL. handle 0.036 m.

Fig. 13

Fragment from wall of small round-bodied jug with vertical side-attached handle. Phrygian letter graffiti on outer surface of handle, running lengthwise: *kikos*.

Graffito on wall to right of handle: laticing  
6th century—first half of the 4th century B. C.

**2A-93 Black polished bowl**

I 635 CM-ETC-2  
Max. dim. 0.097; Est. D. rim 0.19 m.

Fig. 13

Rim sherd of large shallow black polished bowl, plain rim.

Graffito on exterior: two parallel vertical lines with diagonal lines in between, creating irregular cross-hatching  
6th century—first half of the 4th century B. C.

**2A-94 Gray handle**

I 305 CM-TB7-A  
PL. 0.081; W. 0.047 m.

Fig. 13

Broad vertical strap handle of coarse gray ware closed vessel.

Graffito on upper part of handle: cross  
6th century—first half of the 4th century B. C.

**2A-95 Orange handle**

I 643 CM-TBT-6A  
PL. handle 0.120; D. handle 0.026 m.

Fig. 14

Vertical handle, oval section, of orange-buff closed vessel, probably jug.

Graffito on exterior surface of handle, at widest part of loop: rectangle with central vertical line  
6th century—first half of the 4th century B. C.

**2A-96 Black polished handle**

I 326 CM-M5-J  
PL. 0.096; W. 0.026 m.

Fig. 14

Vertical strap handle of black polished jug, rectangular section.

Graffito on exterior of handle: vertical row of X's bounded by vertical line on either side  
6th century—first half of the 4th century B. C.

**2A-97 Base of gray polished bowl**

I 352 CM-M6-C, mixed clay  
D. foot 0.068 m.

Fig. 14; Pl. 3

Base of gray polished bowl with ring foot.

Graffito on underside of base: star  
6th century—first half of the 4th century B. C.

**2A-98 Base of black polished bowl**

I 433 CM-TB8-S2  
0.066 x 0.064; D. foot 0.047 m.

Fig. 14

Base of black polished bowl with concave disk foot.

Graffito on underside of base: three sets of laticing, each with gouged dot in the middle; and on wall: X  
6th century—first half of the 4th century B. C.

**2A-99 Black polished bowl**

I 435 CM-WS-9N  
H. 0.034; Est. D. rim 0.145; D. foot 0.062 m.

Fig. 14

*Circa* one-quarter of black polished bowl with low disk foot, sharply upward curving sides, plain rim.

Graffito on underside of base: cross with trident pattern on end of each arm.

6th century—first half of the 4th century B. C.

**2A-100 Black polished bowl**

I 440 CM-M7-F, WS-10  
H. 0.026; Est. D. rim 0.11; D. foot 0.046 m.

Fig. 14

*Circa* one-third of small black polished bowl with plain rim and concave disk foot.

Graffiti, on underside of base: asterisk with eight arms, V on end of each arm, laticing superimposed on pattern; on exterior wall: series of polygons in ring around foot, one of which has short lines extending out from each side; laticing on exterior wall between two polygons.

6th century—first half of the 4th century B. C.

**2A-101 Base of buff polished bowl**

I 479 CM-WCW-6E  
0.083 x 0.070; D. foot 0.053 m.

Fig. 14

Base and lower wall of buff polished bowl with concave disk foot.

Graffito on underside of base: horizontal line with vertical line rising at right angle from center, vertical line crossed by U

6th century—first half of the 4th century B. C.

**2A-102 Two sherds from pithos wall**

I 33 CM-South Trench  
(I 33a) 0.138 x 0.091; (I 33b) 0.235 x 0.089 m.

Fig. 14

Two nonjoining sherds from wall of large coarse orange-buff pithos.

Graffiti, on exterior: on I 33a, three diagonal lines extending down and to the right, from the middle of each of these a diagonal line extending down and to the left; on I 33b, a single diagonal line extending down and to the right crossed by a short diagonal line extending from upper right to lower left

6th century—first half of the 4th century B. C.

**2A-103 Black polished bowl**

P 2836b CM-M4-C  
H. 0.033; D. rim 0.133; D. foot 0.053 m.

Fig. 14

Black polished bowl with concave disk foot and plain rim.

Graffiti on exterior wall above foot: two sets of four parallel lines, one on each side of foot

6th century—first half of the 4th century B. C.

**2A-104 Black polished bowl**

P 2836c CM-M4-C  
H. 0.025; D. rim 0.109; D. foot 0.042 m.

Fig. 14

Black polished bowl with concave disk foot and plain rim.

Graffiti on underside of foot: laticing with irregularly curved lines superimposed; and on exterior wall above foot: X on its side

6th century—first half of the 4th century B. C.

**2A-105 Black polished bowl**

P 2837 CM-M4-C  
H. 0.061; D. rim 0.206; D. foot 0.083 m.

Fig. 15

Large black polished bowl with concave disk foot, two spool attachments on opposite sides of rim.

Graffiti on exterior wall: four sets of three diagonal slashes, one under each spool attachment and one on each side of exterior wall between spools

6th century—first half of the 4th century B. C.

**2A-106 Black polished handle**

P 3768 CM-PBP-N1

0.084 x 0.025 m.

Fig. 15

High-swung vertical strap handle of black polished jug.  
Graffito on exterior surface of handle: vertical row of X's bounded by vertical lines on either side  
6th century—first half of the 4th century B. C.

**2A-107 Black polished bowl**

P 4307 CM-PhWN-4

H. 0.033; Est. D. rim 0.13; D. foot 0.057 m.

Fig. 15

Base and *ca.* one-quarter of black polished bowl with ring foot, small lug on plain rim.  
Graffito on underside of base: irregular latticing  
6th century—first half of the 4th century B. C.

**2A-108 Base of gray ware vessel**

I 279 CM-TB7-A

0.077 x 0.0540; Est. D. base 0.07 m.

Fig. 15

Base of closed gray ware vessel with ring foot.  
Graffito on exterior wall above foot: three deeply drilled points  
6th century—first half of the 4th century B. C.

**2A-109 Black polished bowl**

I 334 CM-TB7-F

H. 0.031; D. rim 0.161; D. foot 0.064 m.

Fig. 15

Base and part of lower walls of black polished bowl with disk foot.  
Graffiti, on floor: cross with small X in each preserved quadrant; on underside of base: carelessly drawn circle; and on exterior wall: curved line with trapezoid at left, X at right  
6th century—first half of the 4th century B. C.

**2A-110 Black polished jug**

P 1143 CM-East of ETN-2, railroad cut

PH. 0.083; Est. D. 0.103; D. foot 0.056 m.

Fig. 15

Small black polished jug with pedestaled base and spreading foot; interlocking V's and diamond pattern on body of jug.  
Graffito on underside of foot: cross  
6th century—4th century B. C.

**2A-111 Black polished bowl**

P 1886 CM-MW-2

H. 0.027; D. rim 0.113; D. foot 0.052 m.

Fig. 16; Pl. 3

Small black polished bowl with concave disk foot.  
Vessel elaborately incised with graffiti: on floor, horizontal line bounded by two diagonal lines at either end, zigzag extends up from left end; on underside of base, lattice pattern; and on exterior wall, series of graffiti around foot: V with inverted V and vertical line inside it, cross with irregular trapezoid on three arms and three lines forming open rectangle on end of fourth arm, butterfly  
6th century—4th century B. C.  
See **2B-44** for letter graffito.

**2A-112 Black polished bowl**

I 174 CM-NCTA-11

H. 0.042; Est. D. rim 0.150; Est. D. foot 0.050 m.

Fig. 16

Section of black polished bowl with flat rim and concave disk foot.

Graffito on exterior wall above foot: three straight lines at right angles forming part of rectangle, surmounted by cross; trace of another graffito at left  
6th century—4th century B. C.

**2A-113 Black polished bowl**

I 414 CM-WS-7N

H. 0.029; D. rim 0.103; D. foot 0.037 m.

Fig. 16

*Circa* half of black polished bowl with plain rim and concave disk foot.

Graffiti, on underside of foot: latticing with additional irregular lines; and on wall: inverted Ψ, polygon with short lines extending out from each side,  
6th century—4th century B. C.

**2A-114 Base of black polished bowl**

I 393 CM-WS-5/6-N

0.092 x 0.073; D. foot 0.053 m.

Fig. 16

Base and part of lower walls of black polished bowl with concave disk foot.

Graffito on wall: vertical line with two curved lines extending up on either side, trace of another vertical line to right  
6th century—4th century B. C.  
See **2C-7** for picture.

**2A-115 Red fruit stand**

P 1972 CM-WML-1E

H. 0.105; D. base 0.143 m.

Fig. 16

Pedestaled foot, stem, and part of bowl of fruit stand; floor red painted and polished; base and stem orange-brown painted and polished.

Graffito on upper surface of spreading pedestaled foot: X  
6th century—4th century B. C.

**2A-116 Rim of black polished bowl**

P 2399 CM-W2S

Max. dim. 0.110; Est. D. 0.17 m.

Fig. 16

Rim sherd from large black polished bowl, plain rim with spool attachment on exterior.

Graffito on exterior wall below spool attachment: X  
6th century—4th century B. C.

**2A-117 Gray ware bowl**

P 2428 CM-W1S

H. 0.031; Est. D. rim 0.135; D. base 0.043 m.

Fig. 16

*Circa* half of shallow gray polished bowl with plain rim and disk foot, ray pattern burnished on lower part of exterior wall radiating out from foot.

Graffiti, on floor: X (very faint); and on exterior wall: horizontal line with diagonal lines above (perhaps part of picture)

6th century—4th century B. C.

**2A-118 Black polished bowl**

P 2453 CM-W1S

H. 0.036; D. rim 0.126; D. foot 0.056 m.

Fig. 17

Black polished bowl with plain rim and disk foot.  
Graffito on underside of base: compass-drawn circle, three parallel lines across foot, one of which bisects circle  
6th century—4th century B. C.

**2A-119 Gray polished fruit stand**

P 2549 CM-CW-1

PH. 0.112; PW. foot 0.060; Max. dim. floor 0.077 m.

Fig. 17

Small fragment of floor and upper part of stem from pedestaled foot of gray polished fruit stand. Surface of floor much worn.

Graffito on floor: butterfly  
6th century-4th century B. C.

**2A-120 Black polished bowl**

P 4027 CM-PPB-SE2

0.117 x 0.079; Est. D. foot 0.07 m.

Fig. 17

Part of lower wall and base of large thick-walled black polished bowl with ring foot.

Graffito on exterior wall above foot: vertical line with two curved lines extending out at left, one at right

6th century-4th century B. C.

See **2B-43** for letter graffito.**2A-121 Black polished bowl**

P 4803 CM-fill between PPB and city wall

0.062 x 0.035 m.

Fig. 17

*Circa* half of base of black polished bowl with disk foot and one tripod leg extending down from foot.

Graffito on floor: branch  
6th century-4th century B. C.

**2A-122 Base of black polished bowl**

I 134 CM-NCTA-4

0.087 x 0.081; D. foot 0.072 m.

Fig. 17

Base of black polished bowl with spreading ring foot. Finely polished.

Graffito on undersurface of base: cross  
6th century-4th century B. C.

**2A-123 Base of black polished bowl**

I 202 CM-EML-2E

D. foot 0.066 m.

Fig. 17

Base of black polished bowl with ring foot; ray pattern carelessly burnished on underside of base.

Graffito on underside of base: cross  
6th century-4th century B. C.

**2A-124 Black polished bowl**

I 223 CM-EML-3W

H. 0.034; Est. D. rim 0.13; D. foot 0.046 m.

Fig. 17

*Circa* one-quarter of shallow black polished bowl with concave disk foot and flat, angular rim.

Graffiti, on interior floor: X; and on exterior wall above foot: X

6th century-4th century B. C.

**2A-125 Base of black polished vessel**

I 232 CM-WML-4S

0.062 x 0.038; Est. D. foot 0.06 m.

Fig. 17

Base of black polished closed vessel with concave disk foot.

Graffito on underside of foot: butterfly  
6th century-4th century B. C.

**2A-126 Black polished bowl**

I 241 CM-WIS

H. 0.041; Est. D. bowl 0.13; Est. D. foot 0.06 m.

Fig. 17

Shallow black polished bowl with flat bottom, whole profile preserved.

Graffito on underside of base: vertical line with V on one end, diagonal line below

6th century-4th century B. C.

**2A-127 Black polished bowl**

I 252 CM-PS-2

0.123 x 0.042; Est. D. rim 0.13 m.

Fig. 17; Pl. 3

Rim sherd of black polished bowl, plain rim.

Series of graffiti on exterior wall in horizontal row below rim: vertical line with small loop on upper end, line bisects inverted V; vertical line with three branches extending up from it; vertical line with two concentric semicircles on upper right side, two concentric semicircles on lower left side; cross with arrows on two arms, V's on other two arms

6th century-4th century B. C.

**2A-128 Black polished bowl**

I 281 CM-M5-G

H. 0.038; Est. D. rim 0.16; Est. D. foot 0.05 m.

Fig. 17

*Circa* one-quarter of shallow black polished bowl with disk foot and horizontally ribbed exterior.

Graffito on exterior wall below rim: cross  
6th century-4th century B. C.

**2A-129 Base of black polished bowl**

I 394 CM-WS-5/6-N

0.068 x 0.042; D. foot 0.056 m.

Fig. 17

Base of black polished bowl with concave disk foot.

Graffito on underside of base: cross, semicircle in each quadrant of cross with arc towards center  
6th century-4th century B. C.

**2A-130 Black polished bowl<sup>79</sup>**

I 395 CM-WS-5/6-N

H. 0.038; Est. D. rim 0.170; Est. D. foot 0.050 m.

Fig. 18

*Circa* one-fifth of shallow black polished bowl with plain rim and ring foot.

Graffito on exterior wall: lines extending from base to rim, each crossed by M above base ring and W below rim  
6th century-4th century B. C.

**2A-131 Wall sherd of orange-buff polished vessel**

I 396 CM-WS-5/6-S

0.092 x 0.084; D. handle 0.023 m.

Fig. 18

Wall sherd and spur of round vertical handle of orange-buff polished closed vessel.

Graffito on wall below base of handle: butterfly  
6th century-4th century B. C.

**2A-132 Black polished bowl**

I 400 CM-WS-5/6-N

0.065 x 0.047; Est. D. rim 0.11 m.

Fig. 18

Rim sherd of black polished bowl with outward curving, offset rim; finely polished.

Graffito on exterior below rim: swastika turning clockwise, with one additional stroke oriented in the opposite direction

6th century-4th century B. C.

**2A-133 Base of black polished bowl**

I 415 CM-WS-7N

0.065 x 0.058; Est. D. foot 0.06 m.

Fig. 18

Base of black polished bowl with concave disk foot.

79. Brixhe and Lejeune (1984) G-208.

Graffiti on interior wall: cross; on underside of foot: cross with V on each arm; and on exterior wall: inverted A with central vertical line

6th century–4th century B. C.

**2A–134 Gray polished fruit stand**

I 419 CM-WS-7N

PH. 0.038; Max. dim. floor 0.094 m.

Fig. 18

Section from floor of bowl and stem of gray polished fruit stand.

Graffito on center floor: butterfly

6th century–4th century B. C.

**2A–135 Black polished trefoil jug**

I 422 CM-WS-10

PH. 0.055; PW. 0.054 m.

Fig. 18

Mouth, neck, and part of shoulder of black polished trefoil jug.

Graffito on neck: W with vertical line extending down from central point

6th century–4th century B. C.

**2A–136 Base of black polished jug**

I 423 CM-WS-4/5-S2/3

0.055 x 0.040; D. foot 0.036 m.

Fig. 18

Base of black polished jug with ring foot, wall vertically ribbed.

Graffito on underside of base: swastika

6th century–4th century B. C.

**2A–137 Black polished bowl**

I 425 CM-WS-4/5-S3

Max. dim. 0.070; Est. D. rim 0.145 m.

Fig. 18

Rim sherd of black polished bowl with carinated and thickened rim.

Graffito on exterior below rim: semicircle with triangle below forming irregular B form; at right, semicircle crossed by vertical line

6th century–4th century B. C.

**2A–138 Base of black polished bowl**

I 489 CM-PPB-SE2

0.045 x 0.024; Est. D. base 0.060 m.

Fig. 18

Base and small bit of wall of black polished flat-bottomed bowl.

Graffito on center of floor: triskeles

6th century–4th century B. C.

**2A–139 Black polished bowl**

I 587 CM-CW-1

H. 0.039; Est. D. rim 0.17; D. foot 0.065 m.

Fig. 18

*Circa* half of black polished bowl with ring foot, low ridge on exterior wall below rim.

Graffiti, on underside of base: vertical stroke, butterfly, N; and on wall above foot: two parallel vertical lines joined by two horizontal lines with V in between

6th century–4th century B. C.

See 2B–56 for letter graffito.

**2A–140 Black polished bowl**

P 655 CM-NE corner

H. 0.047; Est. D. rim 0.220 m.

Fig. 19

*Circa* one-quarter of black polished bowl with low ring foot and inward thickened rim.

Graffiti, on floor: lines radiating out from center, irregular circle around them; and on underside of base: two horizontal lines crossed by vertical line

6th century–4th century B. C.

**2A–141 Black polished bowl**

P 2647 CM-PS-1

H. 0.029; D. rim 0.105; D. foot 0.041 m.

Fig. 19

Black polished bowl with concave disk foot, slightly in-turned rim.

Graffiti, on underside of base: latticing; and on exterior wall above foot: curved line with horizontal line below, several vertical lines above and below horizontal line (animal form?)

6th century–4th century B. C.

**2A–142 Base of black polished bowl**

P 2953 CM-PPPS

0.089 x 0.078; D. foot 0.074 m.

Fig. 19

Base and small part of lower wall of black polished bowl with spreading concave disk foot.

Two sets of graffiti, on floor and on underside of base: zigzag lines

6th century–4th century B. C.

**2A–143 Gray polished bowl**

P 3450 CM-M6-F

H. 0.032; D. rim 0.102; D. foot 0.043 m.

Fig. 19

Small gray polished bowl with disk foot, plain rim, two lugs attached on opposite sides of rim.

Graffito on underside of base: zigzag line

6th century–4th century B. C.

**2A–144 Base of black polished bowl**

I 109 CM-ETV-2

0.105 x 0.081; D. foot 0.055 m.

Fig. 19

Base of black polished bowl with disk foot.

Graffiti on underside of base: series of zigzag lines; and on exterior wall around foot: latticing, ladder pattern to left

6th century–4th century B. C.

**2A–145 Black polished handle**

P 4181 CM-PhWN-4

0.046 x 0.027 m.

Fig. 19

Vertical strap handle of black polished jug.

Graffito on outer surface of handle: ladder pattern with series of diagonal lines, crosshatching, or zigzag lines in each section

6th century–4th century B. C.

**2A–146 Base of black polished vessel**

P 4683 location and context date unknown

Max. dim. 0.101; D. foot 0.065 m.

Fig. 19

Base of closed black polished vessel with ring foot; exterior surface horizontally ribbed.

Graffito on underside of base: Y crossed by horizontal line; at right, vertical row of two squares, each with central X

6th century–4th century B. C.

**2A–147 Base of black polished bowl**

I 165 CM-NCTA-10

0.055 x 0.047; Est. D. foot 0.07 m.

Fig. 19

Base of black polished bowl with concave disk foot.

Graffiti, on underside of foot: two vertical lines connected with three horizontal lines, three vertical lines beside this; and on wall above foot: inverted V surmounted by zigzag line

6th century–4th century B. C.

**2A-148 Base of black polished bowl**

I 205 CM-EML-2W

0.137 x 0.109; D. foot 0.076 m.

Fig. 19

Base and lower walls of large black polished bowl with ring foot. Finely polished.

Graffito on underside of base: latticing

6th century–4th century B. C.

**2A-149 Base of gray ware vessel**

I 310 CM-TB7-E

D. base 0.065 m.

Fig. 20

Half of base of closed gray ware vessel with concave disk foot.

Graffito on underside of base: two arms of a cross at right angle to one another, each with a horizontal bar extending to the right (half of swastika?)

6th century–4th century B. C.

**2A-150 Black polished bowl**

I 432 CM-WS-9N

H. 0.030; Est. D. rim 0.13; Est. D. foot 0.055 m.

Fig. 20

*Circa* one-third of black polished bowl with plain rim and concave disk foot.

Graffiti, on foot: latticing; and in a row on exterior wall above foot: inverted arrow; inverted arrow with vertical lines extending down from it; horizontal line with two diagonal lines near either end extending up and outward, vertical line extends up from this horizontal line and bisects arrow at top, while on either side of arrow are two parallel lines connected by arc and V

6th century–4th century B. C.

**2A-151 Black polished bowl**

I 78 CM-NE corner

H. 0.038; Est. D. bowl 0.15; D. foot 0.059 m.

Fig. 20

*Circa* half of black polished bowl with concave disk foot.

Graffiti, on underside of base: latticing; and on exterior wall: irregular latticing at three points around base

6th century–4th century B. C.

**2A-152 Base of black polished bowl**

P 3881 CM-WG-1

D. foot 0.047 m.

Fig. 20

Base of black polished bowl with spreading ring foot.

Graffito on underside of base: two irregular concentric circles with superimposed cross

6th century–4th century B. C.

**2A-153 Base of black polished bowl**

I 354 CM-M6-C

Max. dim. 0.053; Est. D. foot 0.04 m.

Fig. 20

*Circa* half of base and lower wall of fine black polished bowl with low ring foot.

Graffito on underside of base: guilloche and zigzag lines

6th century–3rd century B. C.

**2A-154 Sherd of gray polished vessel**

I 577 CM-fallen earth at Building Q

0.066 x 0.052 m.

Fig. 20

Sherd from shoulder of closed gray polished vessel.

Graffito on exterior surface: irregular circle with central vertical line

6th century–3rd century B. C.

**2A-155 Base of gray ware bowl**

P 3204 CM-TB7-D

0.097 x 0.062; Est. D. foot 0.07 m.

Fig. 20; Pl. 3

Base and part of lower walls of shallow gray polished bowl with ring foot.

Graffito on underside of base: branch

Second quarter of the 4th century B. C.

**2A-156 Black polished bowl**

P 3173 CM-TB7-A

Max. dim. 0.108; Est. D. rim 0.175 m.

Fig. 20

Rim sherd of black polished bowl, plain rim.

Graffito on exterior surface: two concentric circles with central cross made of double cross-hatched lines

Second quarter of the 4th century B. C.

**2A-157 Base of black polished bowl**

P 3207 CM-TB7-A

0.065 x 0.057; D. foot 0.050 m.

Fig. 20

Base of black polished bowl with disk foot.

Graffito on underside of foot: irregular branch

Second quarter of the 4th century B. C.

**2A-158 Gray polished bowl**

P 3804 CM-PBX-5

Max. dim. 0.068; Est. D. foot 0.06 m.

Fig. 20

Section of base and lower wall of gray polished bowl with disk foot.

Graffiti on exterior surface of wall above foot: at left, inverted branch; at right, cross with arrows on end of each arm

Second quarter of the 4th century B. C.

**2A-159 Neck, shoulder, and handle of gray ware vessel**

I 285 CM-TB7-B

PH. 0.123; W. handle 0.044 m.

Fig. 20

Neck, shoulder, and vertical strap handle of large coarse gray ware closed vessel.

Graffito on base of handle: three vertical lines crossed by horizontal line

Second quarter of the 4th century B. C.

**2A-160 Black polished bowl**

P 1812 CM-MW-2

H. 0.042; D. rim 0.141; D. foot 0.060 m.

Fig. 21

Black polished bowl with low ring foot, plain rim.

Graffiti on underside of base and on wall above foot: latticing

Second quarter of the 4th century B. C.

**2A-161 Gray ware bowl**

P 4713 CM-PhWN-7

0.118 x 0.062 m.

Fig. 21

Small part of base and part of lower wall of gray ware

bowl with low ring foot; interior black polished and burnished.

Graffiti, on floor: two diagonal lines connected by arc, zigzag lines above, Y to one side; and on exterior wall: zigzag line

Second quarter of the 4th century B. C.

**2A-162 Gray ware handle**

I 436 CM-TB8-S3

0.118 x 0.056 m.

Fig. 21

Broad vertical strap handle of large coarse gray ware vessel.

Graffito on exterior of handle: careless butterfly

First half of the 4th century B. C.

**2A-163 Gray ware cooking pot**

I 535 CM-PhWN-6

0.112 x 0.084 m.

Fig. 21

Rim and shoulder of coarse gray ware cooking pot with vertical loop handle.

Graffito on exterior, to right of handle: cross surmounted by irregular pentagon

First half of the 4th century B. C.

**2A-164 Buff polished bowl**

P 1107 CM-ETC-3

H. 0.039; D. rim 0.160; D. base 0.054 m.

Fig. 21

Buff polished bowl with flat bottom and flat everted rim, vertical wall under rim.

Graffito on underside of base: cross

First half of the 4th century B. C.

**2A-165 Wall sherd of buff vessel**

I 286 CM-OQ-2/3

0.082 x 0.061 m.

Fig. 21

Wall sherd of closed buff vessel.

Graffito on exterior: horizontal line with diagonal line extending up at left, curved line extending up at right; below, two legs of inverted V (schematic bird?)

First half of the 4th century B. C.

**2A-166 Wall sherd of gray ware vessel**

I 339 CM-M6-C

0.075 x 0.058 m.

Fig. 21

Sherd from thick-walled closed gray ware vessel, probably pithos.

Graffito on exterior surface: star

First half of the 4th century B. C.

**2A-167 Base of black polished bowl**

I 357 CM-WS-9

Max. dim. 0.094; D. foot 0.064 m.

Fig. 21

Base and lower walls of black polished bowl with ring foot.

Graffiti on underside of base: cross with V pattern on each arm; and on exterior wall above foot: simple latticing

First half of the 4th century B. C.

**2A-168 Base of black polished bowl**

I 368 CM-WS-9

Max. dim. 0.080; D. foot 0.045 m.

Fig. 21

Base and part of lower wall of black polished bowl with concave disk foot.

Graffito on underside of base: two diagonal lines with Z superimposed, perhaps intended as a star

First half of the 4th century B. C.

**2A-169 Black polished bowl**

I 424 CM-WS-4/5-S3

Est. D. rim 0.165 m.

Fig. 22

*Circa* one-quarter of black polished bowl with flat-topped rim offset on interior.

Graffiti on interior wall below rim: three dots deeply gouged, cross lightly incised; and on exterior wall: two deeply gouged vertical lines, cross, another cross, Y

First half of the 4th century B. C.

**2A-170 Gray ware amphora**

P 2520 CM-CW-1

PH. 0.392; D. mouth 0.072; D. body 0.295; W. handle 0.034 m.

Fig. 22

Coarse gray ware amphora with squat ovoid body, narrow neck, two vertical strap handles; base missing.

Graffito on exterior surface of handle, near join to neck: X

Second half of the 4th century B. C.

**2A-171 Black glazed fish plate**

I 208 CM-WML-2E

Max. dim. 0.115; D. foot 0.108 m.

Fig. 22

Fragment of Greek black glazed fish plate with ring foot and central depression. Underside reserved except for glazed rings on base and inside of foot.

Graffito on underside of base: X with arrow pattern on one leg, diagonal line with two bars extending out at right angle, two random scratches

Second half of the 4th century B. C.

**2A-172 Gray ware jug**

P 2550 CM-NE-1

PH. 0.125; W. handle 0.051 m.

Fig. 22

Section of mouth, neck, shoulder, and vertical strap handle of coarse gray ware trefoil jug.

Graffito on upper part of handle, at join to mouth: two intersecting inverted V's (butterfly?)

Second half of the 4th century B. C.

**2A-173 Base of gray ware vessel**

I 280 CM-TB7-A

0.079 x 0.077; D. base 0.065 m.

Fig. 22

Base of coarse flat-bottomed gray ware open vessel.

Graffito on center floor: lunate crescent

Second half of the 4th century B. C.

**2A-174 Gray ware echinus bowl**

P 4386 CM-CC3-B

H. 0.055; Est. D. rim 0.200; D. foot 0.098 m.

Fig. 22

Gray ware echinus bowl with inturned rim and ring foot. Ray pattern burnished on exterior wall extending out from foot; rays burnished in asterisk pattern on underside of base.

Graffito on underside of base: branch

Second half of the 4th century B. C.

**2A-175 Base of gray ware vessel**

I 625 CM-Deep Cut 2

Max. dim. 0.088; D. foot 0.085 m.

Fig. 22

*Circa* half of base and small part of lower wall of coarse



gray ware closed vessel with spreading disk foot. Exterior wall slipped.

Graffito on underside of foot: rectangle with double lines, double-lined cross-hatching inside

Second half of the 4th century B. C.

**2A-176 Lydian amphora neck**

P 2499 CM-CW-1

PH. 0.090; Est. D. rim 0.195 m.

Fig. 23

*Circa* half of neck and spur of handle attachment of Lydian black glazed amphora with flat everted rim. Surface of rim white painted with black glazed lines at right angles to edge of rim. Series of incised lines imitate glazed decoration.

Graffito on rim next to incised lines: two horizontal lines crossed by two vertical lines

4th century B. C.

**2A-177 Gray ware lid**

P 1478 CM-NCTA-10

H. 0.037; Est. D. lid 0.090 m.

Fig. 23

*Circa* half of hemispherical gray ware lid, slightly flattened on top, with loop handle.

Two similar graffiti, one on exterior surface beside handle and one on interior: series of vertical lines connected by a horizontal line along one end

4th century B. C.

**2A-178 Rim and shoulder of coarse gray vessel**

I 175 CM-NCTA-11

0.076 x 0.063; Est. D. rim 0.11; Est. D. shoulder 0.13 m.

Fig. 23

Fragment of rim and upper wall of coarse gray ware jar with everted rim.

Graffito on upper part of shoulder: irregular latticing

4th century B. C.

**2A-179 Rim of black polished bowl**

I 148 CM-Clay Cut Ext. 5

0.127 x 0.046; Est. D. rim 0.150 m.

Fig. 23

Rim sherd of shallow black polished bowl.

Graffito on exterior of bowl below rim: intersecting curved and straight lines crossed by diagonal line; to the right, *W*, crossed by central vertical line

4th century B. C.-first half of the 3rd century B. C.

**2A-180 Gray ware jug**

I 185 CM-MN Ext. 3

PH. 0.081; Est. D. neck 0.170; W. handle 0.045 m.

Fig. 23

Neck, shoulder, and upper part of high-swung vertical strap handle of coarse gray ware jug.

Graffito on upper part of handle near join to neck: butterfly

4th century-3rd century B. C.

**2A-181 Base of black polished bowl**

I 213 CM-EML-2E

D. foot 0.067; Max. dim. 0.081 m.

Fig. 23

Base of black polished bowl with ring foot, ray pattern burnished on interior floor.

Graffito on underside of base: *X*

4th century-3rd century B. C.

**2A-182 Fragment of gray polished bowl**

I 209 CM-WML-1E

0.038 x 0.035 m.

Fig. 23

Small fragment of gray polished bowl with flat bottom, interior black polished.

Graffito on center floor: irregular lines crossed by zigzag line

4th century-3rd century B. C.

**2A-183 Black glazed bowl<sup>80</sup>**

P 3490 CM-TB8-AB

H. 0.037; Est. D. 0.13; D. foot 0.082 m.

Fig. 23

Base, lower walls, and *ca.* one-third of rim of Greek black glazed echinus bowl. Ring foot with grooved resting surface, scraped groove at juncture of foot to wall, inturned rim. Rouletting and palmette stamps on floor. Totally glazed except for scraped groove.

Graffito on underside of base: asterisk composed of several lines extending from ring foot to converge on central nipple

Second half of the 4th-first quarter of the 3rd century B. C.

**2A-184 Black glazed echinus bowl<sup>81</sup>**

P 3024 CM-T-SW

H. 0.034; Est. D. bowl 0.133; Est. D. foot 0.073 m.

Fig. 23

Greek black glazed echinus bowl; ring foot with grooved resting surface, inturned rim, palmette stamps and rouletting on floor. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: triangle with central vertical line, break immediately above

Second half of the 4th-first quarter of the 3rd century B. C.

**2A-185 Base of black glazed vessel**

I 428 CM-WS-10

D. foot 0.107 m.

Fig. 23

Base of Greek black glazed closed vessel, perhaps amphora or oinochoe, upper part of outer edge and resting surface reserved, underside glazed. Outer edge of foot molded.

Graffiti on underside of base: diamond with vertical line extending down at right, arrow

Second half of the 4th-first quarter of the 3rd century B. C.

**2A-186 Black polished vessel**

P 1734 CM-Q-2

PH. 0.07; PW. 0.15; D. foot 0.078 m.

Fig. 24

Lower half of large black polished closed vessel with ring foot, surface vertically ribbed.

Graffito on underside of base: two *X*'s with horizontal lines above and below

Second half of the 4th-first half of the 3rd century B. C.

See **2B-118** for letter graffito.

**2A-187 Base of gray ware vessel**

P 2846 CM-M4-S2

D. foot 0.061 m.

Fig. 24

Base of closed gray ware vessel with spreading disk foot.

80. Winter (1984) 113, no. 25.

81. Winter (1984) 113, no. 24.

Graffito on underside of base: cross with V pattern on end of each arm

Second half of the 4th—first half of the 3rd century B. C.

**2A-188 Clay disk**

I 55 CM-NCT

D. 0.027 m.

Fig. 24

Round disk cut from wall of coarse buff closed vessel with red wash on exterior.

Graffito on exterior: two vertical lines surmounted by irregular horizontal line, two irregular vertical lines to the right

Second half of the 4th—first half of the 3rd century B. C.

See also 4-6.

**2A-189 Sherd from buff vessel**

I 123 CM-ETC-2

PH. 0.054; PW. 0.055 m.

Fig. 24

Fragment from sloping neck of buff jar, possibly Lydian. Micaceous clay; exterior polished, interior wheel-ribbed.

Graffito on exterior wall: small circle with line extending down from right side, vertical line, trace of another circle to the right

Second half of the 4th—first half of the 3rd century B. C.

**2A-190 Gray ware lid**

P 3155 CM-TB7-A

H. 0.060; Est. D. 0.135 m.

Fig. 24

Round lid of coarse gray fabric with convex surface above, concave surface below, horizontal loop handle in center.

Graffito on upper surface: X on either side of handle

Second half of the 4th—first half of the 3rd century B. C.

**2A-191 Base of gray ware vessel**

P 3771 CM-PPB-3

D. foot 0.073; Max. dim. 0.075 m.

Fig. 24; Pl. 3

Base of closed gray polished vessel with spreading ring foot.

Graffito on underside of base: eight-pointed asterisk with V forming arrow pattern on end of each arm

Second half of the 4th—first half of the 3rd century B. C.

**2A-192 One-handled cooking pot**

P 3898 CM-WCW-4

H. 0.175; D. rim 0.140; D. body 0.210; W. handle 0.047-0.050 m.

Fig. 24

Coarse gray ware cooking pot with flat bottom, round body, wide mouth, single vertical high-looped strap handle, vertical groove at base of handle.

Graffito on outer face of handle: butterfly with vertical line extending down from it

Second half of the 4th—first half of the 3rd century B. C.

**2A-193 Fragment of wall and handle of gray ware vessel**

I 180 CM-Q-1

0.071 x 0.050; PL. handle 0.026 m.

Fig. 24

Fragment of wall of coarse gray ware closed vessel with vertical strap handle.

Graffito on outer face of handle near join to body of vase: two parallel vertical lines, left one higher, crossed by horizontal line

Second half of the 4th—first half of the 3rd century B. C.

**2A-194 Base of red painted bowl**

I 183 CM-Q-1

D. foot 0.069 m.

Fig. 24

Base of buff bowl with ring foot, grooved resting surface. Interior floor red painted, palmette stamps around central circle.

Graffito on underside of base: X

Second half of the 4th—first half of the 3rd century B. C.

**2A-195 Wall sherd of closed vessel**

I 192 CM-MN-2

0.087 x 0.063 m.

Fig. 24

Wall sherd of large coarse closed vessel, pinkish buff clay fired red on exterior surface.

Graffito heavily incised on exterior: T surmounted by horizontal line

Second half of the 4th—first half of the 3rd century B. C.

**2A-196 Base of gray ware vessel**

I 200 CM-EML-2E

0.111 x 0.062; Est. D. foot 0.105 m.

Fig. 24

Base of large closed gray ware vessel with high ring foot.

Graffito on underside of base: asterisk

Second half of the 4th—first half of the 3rd century B. C.

**2A-197 Base of closed buff vessel**

I 215 CM-EML-3E

0.054 x 0.051; D. base 0.045 m.

Fig. 24

Base of closed buff vessel with offset, shallowly concave base.

Graffito on underside of base: asterisk

Second half of the 4th—first half of the 3rd century B. C.

**2A-198 Gray handle**

I 219 CM-EML-4E

PL. 0.053; W. 0.041 m.

Fig. 24

Fragment of coarse gray ware vertical strap handle, oval section.

Graffito on outer face of handle: cross

Second half of the 4th—first half of the 3rd century B. C.

**2A-199 Sherd of gray ware jug**

I 248 CM-PS-1

0.055 x 0.042 m.

Fig. 24

Wall sherd of gray polished jug.

Graffito on exterior wall: X with lines at end of bars of X at right angle

Second half of the 4th—first half of the 3rd century B. C.

**2A-200 Base of gray ware bowl**

I 327 CM-TB7-F

D. foot 0.055 m.

Fig. 24

*Circa* one-half of base of gray ware bowl with concave disk foot.

Graffito on underside of base: half of triskeles, dots between each leg

Second half of the 4th—first half of the 3rd century B. C.

**2A-201 Shoulder of gray ware jar**

I 328 CM-TB7-F

0.103 x 0.079 m.

Fig. 25

Sherd from shoulder of closed coarse gray ware jar.

Graffito on exterior surface: two arms of cross, upper

arm formed by three vertical lines closed on top by horizontal line, right arm formed by horizontal line and vertical line extending down from its right end

Second half of the 4th—first half of the 3rd century B. C.

**2A-202 Black polished fruit stand**

I 340 CM-M6-C

PH. 0.035; Max. dim. floor 0.048 m.

Fig. 25

Part of floor and pedestal stem of black polished fruit stand.

Graffito on floor: butterfly

Second half of the 4th—first half of the 3rd century B. C.

**2A-203 Base of black polished bowl**

I 358 CM-WS-6

Max. dim. 0.086; D. foot 0.057 m.

Fig. 25

Base and lower walls of black polished bowl with concave disk foot.

Graffito on underside of base: cross with arrow pattern on each arm

Second half of the 4th—first half of the 3rd century B. C.

**2A-204 Wall sherd of gray ware vessel**

I 360 CM-WS-7

0.086 x 0.047 m.

Fig. 25

Wall fragment of closed gray ware vessel, probably small jug.

Graffito on exterior surface: two lines curving downward, between them a vertical line with dot at bottom and to the left

Second half of the 4th—first half of the 3rd century B. C.

**2A-205 Rim of black polished bowl**

I 366 CM-TB8-C

0.045 x 0.041 m.

Fig. 25

Rim sherd of black polished bowl with vertical sides, inward and outward thickened, flat-topped rim with raised ridge on outer edge.

Graffito on exterior surface below rim: row of two small circles, vertical line extending down from each

Second half of the 4th—first half of the 3rd century B. C.

**2A-206 Base of flat-bottomed bowl<sup>82</sup>**

I 369 CM-WS-6

0.062 x 0.043; Est. D. base 0.07 m.

Fig. 25

Base of shallow flat-bottomed bowl, burned.

Graffito on interior floor: arrow

Second half of the 4th—first half of the 3rd century B. C.

See **2B-141** for letter graffito.

**2A-207 Handle of red painted jug**

I 421 CM-M7-H

PL. 0.110; W. handle 0.037 m.

Fig. 25

Vertical strap handle of red painted jug, part of wall attached at base.

Graffito on exterior of handle, at right angle to direction of handle: two V's joined by central vertical, horizontal line between lower angle of V's

Second half of the 4th—first half of the 3rd century B. C.

**2A-208 Black polished bowl**

I 516 CM-PhW-4

H. 0.043; Est. D. rim 0.15; Est. D. foot 0.07 m.

Fig. 25

Black polished bowl with spreading disk foot, small lug on rim.

Graffito on floor: cross, horizontal line below this and to the right; below, triangle with vertical line extending down from horizontal bar

Second half of the 4th—first half of the 3rd century B. C.

**2A-209 Gray polished bowl**

I 534 CM-PhWN-6

0.074 x 0.064; Est. D. rim 0.22 m.

Fig. 25

Fragment from rim and wall of gray polished bowl, flat-topped rim.

Graffito on exterior surface: irregular circle with vertical line through the center

Second half of the 4th—first half of the 3rd century B. C.

**2A-210 Gray ware jug**

I 605 CM-City Wall trench

PH. 0.048; Est. D. body 0.11; D. foot 0.048 m.

Fig. 25

Lower third of gray polished closed vessel, probably jug, with squat round body and disk foot.

Graffito on underside of foot: star

Second half of the 4th—first half of the 3rd century B. C.

**2A-211 Base of black polished bowl**

I 606 CM-City Wall trench

Max. dim. 0.067; D. foot 0.058 m.

Fig. 25

Base and small part of lower wall of black polished bowl with disk foot.

Graffito on underside of base: star

Second half of the 4th—first half of the 3rd century B. C.

**2A-212 Gray ware sherd**

I 607 CM-City Wall trench

0.085 x 0.052 m.

Fig. 25

Wall sherd of large coarse gray ware closed vessel.

Graffito on exterior: branch

Second half of the 4th—first half of the 3rd century B. C.

**2A-213 Black polished bowl**

I 608 CM-City Wall trench

0.063 x 0.052; Est. D. rim 0.14 m.

Fig. 25

Rim sherd of black polished bowl, squared flat-topped rim.

Graffito on exterior wall: star

Second half of the 4th—first half of the 3rd century B. C.

**2A-214 Black polished bowl**

P 3417 CM-Q

H. 0.050; D. rim 0.187; D. foot 0.055 m.

Fig. 26

*Circa* one-quarter of black polished bowl with flat bottom and outward thickened rim.

Similar graffiti on interior and exterior surfaces of bowl: zigzag lines extending from center out to rim

Second half of the 4th—first half of the 3rd century B. C.

**2A-215 Black polished bowl**

I 139 CM-East of ETN-2, railroad cut

H. 0.048; Est. D. rim 0.15; Est. D. foot 0.05 m.

Fig. 26

*Circa* one-third of black polished bowl with disk foot.

82. Brixhe and Lejeune (1984) no. G-203.

Graffiti, on foot: four straight lines; and on exterior wall above foot: two vertical lines crossed by three diagonal lines  
Second half of the 4th—first half of the 3rd century B. C.

**2A-216 Gray handle**

I 145 CM-ETO-10  
PL. 0.123; W. 0.050 m.  
Fig. 26

Broad vertical strap handle, oval in section, of coarse gray vessel.

Graffito on lower end of handle, near attachment to vessel: two parallel diagonal lines crossed by three parallel lines

Second half of the 4th—first half of the 3rd century B. C.

**2A-217 Base of gray polished bowl**

I 151 CM-ETO-11  
0.103 x 0.088; D. foot 0.068 m.  
Fig. 26

Base and lower walls of closed gray polished bowl with low ring foot.

Graffito on underside of base: two sets of zigzag lines at right angle to each other, crossed by two lines

Second half of the 4th—first half of the 3rd century B. C.

**2A-218 Base of gray ware bowl**

I 182 CM-Q-1  
D. foot 0.059 m.  
Fig. 26

Base of gray ware bowl with ring foot, cross burnished on underside of base.

Graffito on underside of base: irregular latticing with triangle superimposed

Second half of the 4th—first half of the 3rd century B. C.

**2A-219 Base of gray ware vessel**

I 203 CM-EML-2E  
Max. dim. 0.086; Est. D. foot 0.10 m.  
Fig. 26

*Circa* one-quarter of base of closed gray ware vessel with ring foot.

Graffito on underside of base: two lines forming right angle, zigzag line above.

Second half of the 4th—first half of the 3rd century B. C.

**2A-220 Base of black polished bowl**

I 323 CM-TB7-F  
D. foot 0.055; Max. dim. 0.072 m.  
Fig. 26

Base of thick-walled black polished bowl with concave disk foot.

Graffiti, on exterior wall: lines extending out from foot, four of which are crossed by diagonal line; and on underside of base: vertical line superimposed by erect and inverted V's and series of vertical lines ending in one horizontal line

Second half of the 4th—first half of the 3rd century B. C.

**2A-221 Base of buff bowl**

I 204 CM-EML-2E  
D. foot 0.064 m.  
Fig. 26

Base of buff bowl with grooved ring foot, incised circle on floor of bowl.

Graffito on underside of base: X  
First half of the 3rd century B. C.

**2A-222 Base of buff bowl**

I 273 CM-TB7-A  
0.056 x 0.042 m.  
Fig. 26

Fragment from base and lower wall of large thick-walled buff polished bowl with concave disk foot.

Graffito on underside of base: irregular latticing(?)  
Second half of the 3rd century B. C.

**2A-223 Gray ware jug**

P 142 CM-South Trench  
H. 0.281; D. 0.238 m.  
Fig. 26

Coarse gray ware trefoil jug with flat bottom, round body, vertical strap handle; groove on shoulder.

Graffito on upper shoulder: butterfly  
3rd century B. C.

**2A-224 Buff jug**

P 440 CM-NCTS  
H. 0.382; D. body 0.307; W. handle 0.045 m.  
Fig. 26

Large buff jug with flat bottom, broad ovoid body, narrow neck, round mouth with outward thickened, slightly flaring rim. Single vertical strap handle, depression in base of handle at join to shoulder.

Graffito on upper part of handle near join to neck: cross  
3rd century B. C.

**2A-225 Gray ware bowl**

P 461 CM-NCT  
H. 0.024; D. rim 0.070 m.  
Fig. 26

Small gray ware echinus bowl, poor black glaze on interior and upper part of exterior.

Graffito on exterior wall above foot: carelessly drawn star  
3rd century B. C.

**2A-226 Gray ware jug**

P 558 CM-NCTS  
H. 0.340; D. 0.280 m.  
Fig. 27

Large flat-bottomed gray trefoil jug with round body, vertical strap handle. Partially restored.

Series of graffiti in row on shoulder zone to right of handle: cross with one vertical line extending up from left arm, diagonal line connecting right and lower arms; two points of a star, rest broken; irregular diamond with central cross; star; small vertical line with two horizontal lines at upper right, two horizontal lines at lower left; two diagonal lines extending from lower left to upper right crossed by vertical line

3rd century B. C.

**2A-227 Gray ware bowl**

P 815 CM-NCTA-1  
H. 0.045; D. rim 0.205 m.  
Fig. 27

Gray ware bowl with high ring foot, flat everted and offset rim. Interior surface has poor black glaze.

Graffito on center floor: two concentric circles with superimposed cross

3rd century B. C.

**2A-228 Gray ware echinus bowl**

P 1991 CM-MN-2  
H. 0.062; D. rim 0.133 m.  
Fig. 27

Gray polished echinus bowl with high ring foot.

Graffito in center of floor, very lightly incised: cross  
3rd century B. C.

**2A-229 Neck and handle of gray ware jug**

I 186 CM-MN Ext. 3  
Max. dim. neck 0.096; PL. handle 0.143; W. handle 0.048 m.  
Fig. 27

Vertical strap handle and section of neck of coarse gray ware jug.

Graffito on upper part of handle near join to neck: butterfly  
3rd century B. C.

**2A-230 Base of black glazed bowl**

P 2891 CM-TBT-CC2

D. foot 0.053; Max. dim. 0.082 m.

Fig. 27

Base and part of lower walls of gray ware bowl with concave disk foot. Interior and exterior surfaces, including foot, totally glazed with poor quality black glaze.

Graffiti on underside of base and on lower wall above foot: irregular latticing  
3rd century B. C.

**2A-231 Black polished bowl**

I85 CM-NE corner

H. 0.037; Est D. rim 0.15; Est. D. foot 0.060 m.

Fig. 27

Shallow black polished bowl with ring foot

Graffito on underside of base: branch

3rd century B. C.

## Section 2B Letter Forms

Letters of the alphabet form the second largest group of owners' marks on the pottery of Gordion. A number of multiletter texts scratched on pottery should be considered owners' marks, for most of them consist of a proper name or names, probably referring to the owners of the vessels. These have been edited and published by Claude Brixhe and Michel Lejeune in their *Corpus des inscriptions paléo-phrygiennes*.<sup>1</sup> The material presented here is much more modest. It consists primarily of single letters, ligatures and monograms, and two or three separate letters which comprise the entire graffito. A few instances of two or three letters which form part of a broken text on a sherd will also be presented, where these pieces contribute something of interest. These graffiti appear on a variety of different pottery shapes, but are found primarily on small bowls and jugs, small closed vessels, probably storage jars, and fruit stands. There are only a few instances of one or two letters occurring on large storage containers.

The Phrygian alphabet as attested at Gordion consisted of twenty-three letters,<sup>2</sup> eighteen of which were borrowed from the Greek alphabet and evidently carried the same phonetic values: *a b g d e v z i k l m n o p r s t u*.<sup>3</sup> Two more letters resemble Greek letters in form, although their phonetic value is uncertain:  $\Upsilon$   $\Upsilon$ . Three other letters are unique to the Phrygian script:  $\uparrow$   $\downarrow$   $\Psi$ . The  $\uparrow$ , first attested in one of the texts from Tumulus MM,<sup>4</sup> is believed to be a sign denoting the

palatalization of the succeeding vowel.<sup>5</sup> The  $\downarrow$  (which can also appear as  $\downarrow$ , evidently with no difference in value) seems to be a letter introduced into the Phrygian script in the sixth century B. C. to represent the consonant *i*, here transliterated as *y*.<sup>6</sup> The phonetic value of  $\Psi$  is unknown.<sup>7</sup>

The Phrygian language is still only imperfectly understood, largely because of the small quantity of material available for study. The corpus presented here, consisting as it does of one, two, or three isolated letters, will not contribute to an understanding of Phrygian grammar. It does, however, contribute to our knowledge of the script, for it presents further evidence for Phrygian letter forms and includes several examples of the letters peculiar to the Phrygian alphabet. It also makes possible certain statements on the frequency of individual letters, on the changes in letter forms, and on the use of writing in the city.

Alphabetic writing was known in Gordion from the latter part of the eighth century B. C., as is shown by the presence of a short alphabetic graffito on one sherd from the City Mound, dating from the level of the city preceding that of the Kimmerian destruction, and on five objects from Tumulus MM.<sup>8</sup> These examples all appear to be proper names or abbreviations of proper names,<sup>9</sup> a circumstance which is also the case for the numerous graffiti on pottery of seventh through third centuries at Gordion.<sup>10</sup> Therefore, it seems likely that the purpose of incising a

1. Brixhe and Lejeune (1984) 94-214. See also Young (1969b) 252-296, nos. 29, 34-42, 44-62, 64-77. On their likely interpretation as proper names, Lejeune (1969b) 290; Lejeune (1970) 53, Brixhe and Lejeune (1984) 95.

2. Lejeune (1969a) 39; Lejeune (1970) 64; Brixhe and Lejeune (1984) 279-282. An additional letter,  $\mathfrak{B}$ , does not appear at Gordion, but is attested at Boğazköy, G. Neumann (1975) 79 no. 5, Brixhe and Lejeune (1984) no. P-106, and at Çepni, Brixhe and Drew-Bear (1982) 68 no. 1, Brixhe and Lejeune (1984) no. N-08. Two other letters,  $\mathfrak{P}$ , found in an inscription at Midas City, Friedrich (1932) 125 no. 2, Brixhe and Lejeune (1984) no. M-016, and  $\mathfrak{Q}$ , found in the Çepni inscription, Brixhe and Drew-Bear (1982), do not occur in any alphabetic text at Gordion, although both symbols appear as nonalphabetic owners' marks,  $\mathfrak{P}$  on 2A-154 and 2A-209, and  $\mathfrak{Q}$  on 2A-205.

3. See the chart on p. 000 for the letters of the Old Phrygian alphabet and their Latin equivalents. Lejeune, in (1969a) 20, and (1970) 55, discusses the reasons for using Latin characters to transliterate Old Phrygian.

4. Young (1981) no. MM 68.

5. Lejeune (1969a) 42. Brixhe (1982) 229-35; Brixhe and Lejeune (1984) 281.

6. Lejeune (1969a) 30-38.

7. Lejeune (1970) 63-64.

8. Young (1969b) 257 no. 29, 25, 30-33. Brixhe (1981) 273-77.

9. Brixhe (1981) 276.

10. See note 1 above.

single letter, or an isolated set of two or three letters, was to abbreviate a personal name, probably the initial letter(s) of a name. In fact, some examples of two letters appear as the initial two letters of a known Phrygian name: *vo* (2B-28), probably an abbreviation for *voines*<sup>11</sup> and *ba* (2B-34), a shortened form of the common Phrygian name *baba*.<sup>12</sup>

A survey of these examples of isolated letters suggests certain general outlines which may be of statistical value. Of the twenty-three letters of the Phrygian alphabet, *z* never occurs at all in the material considered here, and *i*, *o*, and *t* only in a group of two or more letters. Among single letters, *a* is by far the most common; there are thirty-eight instances of this letter alone, and thirteen more in which it is the first of two or three letters. Beyond this, common letters as singletons, in descending order of frequency, are: *d*, *m*, *e*, *v*, *n*, *k*, *b*, *r*, *u*, and *s*, with a single example each of a separate *l*, *p*, and *g*. A few instances of two or three letters seem unlikely initial combinations: *rs* (2B-9), *nm* (2B-35), *dk* (2B-161). These could be abbreviations of two names, a name and patronymic, or a name followed by a verb.

The precise details of these statistics should be treated with caution, since it is not known what percentage of vessels with graffiti were recovered. Moreover, after the middle of the fourth century B. C. there is an increasing number of objects with graffiti in the Greek language, and so it is conceivable that some of these isolated letters (particularly those which could be either Greek or Phrygian script) may have been written by Greek rather than Phrygian speakers. In general, however, these frequencies may be useful in determining the likelihood of certain letters as initial letters of Phrygian words, especially proper names. There seems to be some correlation between the frequency of these letters and the actual proper names known from Phrygia. Among the names attested by inscription at Gordion, for example, *ata* or *atta* is one of the most common,<sup>13</sup> and this correlation exists to some degree through a wider consideration of the Phrygian names collected by Zgusta.<sup>14</sup>

The unusually high frequency of the letter *a* (more than one-fourth of the examples) may also be due to the fact that this letter could be used as a simple mark

with no reference to an abbreviated name. For example, the *a* on the handle of a large gray ware jar (2B-188), placed opposite an X, which is not a letter in Phrygian script but is a common nonalphabetic symbol, probably carries no reference to a specific name.<sup>15</sup> Similarly an *a* appearing alone on several fruit stands, all found in the same section and stratum of the City Mound (2B-29 through 2B-33, and other uncatalogued examples) may not be the initial letter of a personal name; rather, these vessels may have been marked as a set to indicate their destination or function. A similar situation can be noted among the symbols used on Achaemenian stamp seals in Anatolia, where an isolated *a* is the only letter of the alphabet among a large number of nonalphabetic linear devices used as identifying marks.<sup>16</sup>

The uniquely Phrygian letters *ʃ*, *↑* and *ʔ* have not been included in the previous discussion, for their appearance is unusual enough to merit special consideration. The *ʃ* is one of the more common letters of the Phrygian alphabet, and sixteen examples of it occurring alone have been found. Lejeune has discussed the fact that the *ʃ* was adopted by the Phrygian alphabet in the sixth century to represent the consonantal *i* or *y* sound, and has also argued plausibly that this letter form was borrowed by the Phrygians directly from the Phoenician script.<sup>17</sup> Two points can be introduced from the material considered here to support this theory. The first is connected with the use of the *ʃ* as an isolated letter. It is found on six fruit stands, each of which has this letter incised one or more times on the underside of the bowl or foot (2B-7, 2B-8, 2B-10 through 2B-13). They were uncovered in a pit in the clay which was piled up on the City Mound during the construction of the Middle Phrygian level city in the first half of the sixth century B. C. The letter also occurs alone on a jug from the Küçük Hüyük, destroyed in the middle of the sixth century (2B-6); on a bowl from a mid-sixth century B. C. burial (2B-14); on a fragment of Anatolian black-on-red ware (2B-17); on two red painted bowls (2B-41, 2B-42); and two black and gray polished pieces (2B-53, 2B-58), probably also of the sixth century B. C.<sup>18</sup> After the sixth century the letter is only rarely found alone. Its frequent appearance in Gordion as a single letter in

11. Young (1969b) no. 56, 72; see also 2C-3.

12. Young (1969b) 48; Friedrich (1932) 125 no. 2. Cf. Lejeune (1969b) 291.

13. Brixhe and Lejeune (1984) nos. G-107, G-118, G-123, G-128, G-221, G-224, G-234. See also Brixhe (1981) 276, and Zgusta (1964) 105-109, no. 119.

14. Zgusta (1964) *passim*. Note the comparative infrequency of Phrygian proper names with initial *g*, *p*, *r*, *s*, *u*.

15. Compare the *a* and X applied before firing (1A-15, 1A-17),

found on two identical gray ware jars in the same room in Building A.

16. Boardman (1970) 23, fig. 3, no. D 14.

17. Lejeune (1969a) 30-38, Lejeune (1970) 60-62.

18. The two red painted basins were found in a cellar of the Phrygian-Persian-Building, an area which contained much sixth-century material together with later objects; the black and gray ware pieces also came from a mixed context. Therefore their date is not absolutely certain.

the sixth century B. C. may indicate that it was attractive as an owner's mark because of its novelty and may almost have seemed like a nonalphabetic symbol. The fact that it is almost never found after the sixth century B. C. as a single letter may indicate that from that time on it was regarded only as a regular letter of the alphabet. Since it evidently rarely was used as an initial letter of a proper name, it was an unlikely choice for an abbreviation of a name.

Another piece which provides an interesting example of the † is a small red bowl (2B-37) found in a cellar of the Persian-Phrygian building. The date of archaeological context is uncertain but the piece could be as early as the sixth century. The graffito on the underside of the base, †, is a close replica of the Phoenician *yod*. It is possible that this piece represents the letter in its original Phoenician form, in what may be one of its earliest occurrences, before it had been adopted formally into the Phrygian script.

The occurrences of singleton † and † are somewhat less clear. The † appears in one of the earliest alphabetic texts from Gordion,<sup>19</sup> and so was clearly part of the Phrygian alphabet from its inception. It was also, as noted earlier, used as a mark applied before firing on pottery of the Bronze Age. It is possible that the form survived, and the fact that it had once been a symbol which carried some meaning led to its inclusion in the Phrygian alphabetic script. The presence of a graffito in Phrygian script (2B-172) next to a Bronze Age mark applied before firing, a triangle with a central line (1A-4), demonstrates that the symbols on Bronze Age pottery were known to the Phrygians.<sup>20</sup> The † often occurs alone, however, and also frequently appears in conjunction with nonalphabetic marks, both as a separate symbol and combined into patterns, in a manner which seems not to represent an alphabetic letter.<sup>21</sup> As part of the Phrygian alphabet it has been interpreted as the palatalization of the succeeding vowel.<sup>22</sup> If this is so, the

letter seems an unlikely choice for a singleton letter abbreviating a name, and it is possible that the isolated instances of the † sign may not represent a phonetic value.<sup>23</sup> On a black polished bowl of the late fourth or third century (2B-152), the † is found together with *a*; here the † is probably a letter, but it could also be a combination of two separate letters which are not part of a word, like the X and *a* on the gray ware jar mentioned earlier (2B-188).

The † presents an interesting situation. It appears in the middle of a text inscribed on a sherd from the mantle of a sixth century tumulus, Tumulus E,<sup>24</sup> and so its place in the Phrygian alphabet is assured, although the phonetic quality of the letter remains unknown. On two pieces presented here (2B-168, 2B-202), the † is found together with *a*. This may be an abbreviation of a proper name and is further evidence for the occurrence of the † in alphabetic writing.<sup>25</sup> The letter is also found alone on twelve vases (2B-2, 2B-48, 2B-49, 2B-68, 2B-71, 2B-80, 2B-125, 2B-136, 2B-147, 2B-187, 2B-189, 2B-203); these are presented in this section under the assumption that the isolated † is a letter. The †, however, like the †, also appears on several pieces in conjunction with nonalphabetic marks, sometimes as a separate symbol and sometimes repeated in an intricate pattern.<sup>26</sup> The † may originally have been a nonalphabetic symbol incorporated into the Phrygian alphabet to represent a phonetic value of the Phrygian language which did not exist in the Greek alphabet.<sup>27</sup>

A similar situation also exists for the †. Since both † and † occur in several texts, they must be two different letters, representing two different phonetic values.<sup>28</sup> The form of the † was surely borrowed from a Greek script, but its phonetic value does not seem to correspond to either the "red" or "blue" † of archaic Greek scripts;<sup>29</sup> and its appearance in a longer text, in which the letter has been scratched out

19. Young (1981) 130, no. MM68.

20. Note also the Bronze Age marks, 1A-4 through 1A-9, and the same mark which was used as a nonalphabetic graffito applied after firing on an early Phrygian piece 2A-3. A similar example can be noted in a Phrygian alphabetic graffito at Boğazköy. One of the letters is the schematic branch, a common owners' marks at Gordion and also found frequently among the Bronze Age marks at Boğazköy. See Neumann (1975) 76-84, no. 3.

21. See the commentary on section 2A, p. 14.

22. See Lejeune (1969a) 42, Brixhe (1981) 276, and Brixhe (1982) 229-35.

23. The isolated † found on the reverse of 2B-141 has been listed in the catalogue as 2A-206, on the basis of comparison with 2A-46 and 2A-185. Brixhe and Lejeune (1984) G-203, consider this mark a letter.

24. Young (1969b) 270, no. 37. Brixhe and Lejeune (1984) no. G-112.

25. This letter is also found in a graffito on a black glazed skyphos from the Athenian Agora, Lang (1976) F 100. The graffito itself may not be Phrygian, although the remainder of the word in which it appears seems Greek; moreover, the † can appear in the alphabets of Caria and Side as well as Phrygia. A comparison with another graffito from the same context, Lang (1976) F 99, however, suggests that this text might be Phrygian.

26. See the commentary on section 2A, p. 14.

27. In using the † as a letter, the Phrygians made use of a symbol which had wide currency in Anatolia. The † appears as an isolated mark at Sardis where it may be nonalphabetic, for it is not attested in any Lydian text. The † also is found at Sardis as a Carian letter, Gusmani (1975b) 99.

28. Lejeune (1970) 63.

29. See Jeffery (1961) x, for the application of these terms to the Greek alphabet.

and replaced by a sibilant, suggests that the  $\Upsilon$  may itself represent a sibilant.<sup>30</sup> The  $\Upsilon$  also appears alone on several pieces. Like the  $\uparrow$  and  $\Psi$  discussed above, the  $\Upsilon$  also appears in conjunction with nonalphabetic symbols, both as a separate mark and repeated in complex patterns, suggesting that, to some people at least, an isolated  $\Upsilon$  did not always represent a distinct phonetic value.<sup>31</sup> A further complicating factor is the chronological range of the occurrence of the  $\Upsilon$ . It is found on vessels of the sixth century and continued to be used until the late third century B. C.,<sup>32</sup> at a time when most graffiti were written in the Greek language and in Greek script. The appearance of an isolated  $\Upsilon$  on third century B. C. pieces may represent, not the phonetic value of the Phrygian  $\Upsilon$ , but of the Greek *psi*.

One piece in the catalogue is inscribed with a  $\Psi$ , a form akin to the East Greek *sampi* (2B-55). In Greek this letter normally represents a double sibilant,<sup>33</sup> but its value in the Phrygian script is unknown. It could have been drawn from a Greek script but given a different phonetic value, perhaps an alternate form of the  $\uparrow$ , since like the  $\uparrow$ , it also appears before a vowel.<sup>34</sup>

In addition to providing information concerning the frequency and value of individual letter forms, the material presented here illustrates a variety of changes in individual letters. The letters on seventh-, sixth-, and fifth-century pieces have the characteristics of the archaic script, such as the preference for long thin letters, with long 'tails' on the *v* (2B-4, 2B-28, 2B-52), *m* (2B-5, 2B-35), *u* (2B-22), and *n* (2B-35). Other distinctive traits include the sloping cross bar of the *a*, and an irregular number of strokes in the *s*.<sup>35</sup> The orientation of the letters, where this can be ascertained, is generally dextroverse, but a few are sinistroverse (2B-5, 2B-34, 2B-39, 2B-44). Letter forms of the fourth century and later show a greater degree of regularity and precision. The *a* now appears upright with a horizontal cross bar, the *e* is a more regular upright form with horizontal side bars and no tail, and the *m*, *n*, and *p* are written more symmetrically.

Among the letters on objects of the fourth century B. C. and later the use of distinctively Greek letters increases greatly; note the *lambda* of 2B-108,

2B-109, 2B-113, 2B-135, 2B-149; and the four-barred *sigma* of 2B-61, 2B-65, 2B-112, 2B-137, 2B-178, 2B-181. The influence of the cursive style of writing can be seen in the presence of a lunate *sigma* (2B-138), a cursive *lambda* (2B-83, 2B-97), and a tailed *rho* (2B-97). Also notable are the occurrences of certain distinctly Greek letters which do not occur in the Phrygian abecedarium. The *H* appears as an isolated letter on several pieces (2B-61, 2B-74, 2B-90, 2B-96, 2B-153, 2B-158, 2B-169, 2B-186). This is presumably the Ionic *eta*, definitely so where it appears in a ligature (2B-67, 2B-88, 2B-97). An isolated  $\Xi$  (2B-105, 2B-196) is probably also a Greek letter, as is the  $\theta$ , found in two graffiti reading  $\theta E$  (2B-103, 2B-107), a common beginning for a Greek name. Another Greek letter appearing for the first time in the fourth century is the *X*, found on 2B-108 and 2B-140 in conjunction with a Greek *lambda*, and on 2B-89 and 2B-141. All of these Greek letter forms are part of the standard Ionic alphabet. Since this had been widely adopted by most Greek cities by the fourth century B. C., the date of the earliest examples of Greek letters at Gordion, it cannot be determined from which Greek cities the writers received their letters.

Another indication of the influence of Greek script in Gordion may be seen in the use of ligatures and monograms. The practice of writing two or more letters in combination evidently was originally Greek, first noticed in commercial trademarks,<sup>36</sup> on coins, and in marks of personal ownership on Attic pottery of the late sixth century B. C.<sup>37</sup> Ten instances of ligatures are included here, some found on Phrygian wares and some on Greek wares; all are of the fourth century B. C. or later.<sup>38</sup> Four are common Greek ligatures using Greek letters (2B-67, 2B-97, 2B-135, 2B-149); the others could be either Greek or Phrygian. There are also some examples of complex monograms. One of them, a monogram of *ba* (2B-34), may be an abbreviation of the common Phrygian word *baba*. Four other pieces with monograms (2B-75, 2B-82, 2B-102, 2B-177) could be either Greek or Phrygian.

The Phrygian script continued to be used in Gordion, evidently until the end of the fourth century

30. Brixhe and Lejeune (1984) no. G-145. On the possible phonetic value of  $\Upsilon$ , see Lejeune (1970) 63.

31. See commentary on section 2A, p. 14.

32. Examples of the  $\Upsilon$  on late fourth- and third-century pieces include 2B-128, 2B-129, 2B-190, 2B-200.

33. Jeffery (1961) 38-39. Brixhe (1982) 210-12.

34. Brixhe (1981) 276 n. 15. The  $\Psi$  also appears on a recently discovered sherd at Gordion with a longer alphabetic text (I 630). On this piece the  $\Psi$  appears just before the break in the sherd and so the letter following it is unknown.

The Athenian Agora has produced another example of this letter, incised on a late fifth-century B. C. black-glazed one-handler, Lang (1976) F 99. It is uncertain whether the letters in the graffito are Phrygian, but the presence of the  $\Psi$  following the  $\uparrow$  makes it plausible. See note 25 above.

35. Cf. Lejeune (1970) 59.

36. Johnston (1979) 2-3.

37. Lang (1976) 25.

38. See also 1A-22, 1A-23, 1A-24, for three examples of ligatures and monograms applied to pottery before firing.



and possible extending into the early third century B. C. There are several examples of an isolated  $\Psi$  on pieces of the fourth century B. C. and later (2B-68, 2B-71, 2B-80, 2B-125, 2B-136, 2B-147, 2B-187, 2B-189, 2B-203), as well as the examples of  $\Upsilon$  (2B-168, 2B-202). An  $l$  which looks characteristically Phrygian occurs on a fourth century black glazed fish plate (2B-69), and longer texts in Phrygian script are found on a late fourth century pithos and on several smaller pieces of the late fourth and early third centuries.<sup>39</sup> On the other hand, a  $\Sigma$  and a lunate *sigma* were used in writing common Phrygian names on late fourth and third century pieces,<sup>40</sup> suggesting that the two scripts overlapped for a time.

In sum, the examples of single letters and isolated groups of letters provide another view of the changing nature of writing in Gordion. As noted above, the practice of incising a proper name on an object as a form of personal identification was known in the eighth century B. C., and there are a number of such instances from Gordion in the sixth and fifth centuries. The occurrence of single letters, on the other hand, is not common in the earlier period. There is one example from the seventh century, an  $n$  on a small bowl from the debris of houses buried in the fill of Tumulus H, and thirteen secure examples

from the sixth century B. C.; another twenty-seven pieces may come from the sixth or fifth centuries. From the fourth century B. C. on, however, the quantity of the material increases tremendously, and the more frequent occurrences of alphabetic owners' marks, coupled with the declining use of nonalphabetic marks, may well indicate a greater degree of literacy among the local population. The more extensive knowledge and use of writing may also reflect the growing influence of Hellenism.<sup>41</sup> Greeks had long been accustomed to initialing their drinking cups and bowls, and some of these later alphabetic marks, especially the examples of Greek letters and ligatures, may represent the actual presence in the city of Greek speakers who had settled in central Anatolia in the wake of Alexander's conquests. Examples of Greek letters are found on both Greek and Phrygian wares, and presumably some of these objects were initialed by Phrygian people who had adopted Greek script. While part of the population continued to use the local Phrygian script, as attested by the occurrences of specifically Phrygian letter forms on Hellenistic material, the increasing use of Greek letters suggests the process by which the epichoric script of Gordion died out.

## Catalogue

### 2B Letter Forms 2B-1 to 2B-203

#### 2B-1 Gray polished bowl

I 39 Tumulus H, under mantle  
H. 0.034; Est. D. rim 0.13; D. foot 0.051 m.

Fig. 28

Shallow gray polished bowl with disk foot.

Graffito on underside of foot, near outer edge:  $n$

Before mid-7th century B. C.

#### 2B-2 Black polished jar

P 736 Tumulus M, cremation  
PH. 0.136; D. body 0.176 m.

Fig. 28

Black polished spherical jar with flat base, three horizontal grooves on shoulder below neck. Upper part of neck and mouth missing.

Graffito on underside of base:  $\Psi$

Mid-6th century B. C.

#### 2B-3 Attic black glazed cup

I 553 KH-burnt fill  
0.031 x 0.029 m.

Fig. 28

Sherd from bowl of Attic black glazed kylix, two bands of added purple on exterior.

Graffito on exterior:  $v$

Mid-6th century B. C.

#### 2B-4 Base of gray ware vessel<sup>42</sup>

I 552 KH-clay fill  
0.076 x 0.067; D. foot 0.064 m.

Fig. 28

Base and small part of lower wall of closed coarse gray ware vessel with disk foot.

Graffito on underside of foot:  $v$

Second quarter of the 6th century B. C.

39. Brixhe and Lejeune (1984) nos. G-150, G-220, G-221, G-230, G-231, G-233, G-236, G-244, G-247, G-252, G-253, G-254, G-262, G-275.

40. Young (1969b) 281, no. 46a. Gordion inventory no. I 258 (unpublished).

41. This process can also be recognized in Gordion by the existence of several texts in the Greek language, something not noted before this time. See Young (1953b) 6.

42. Brixhe and Lejeune (1984) no. G-257.

**2B-5 Red banded bowl**

I 206 KH-in fill near stone tower  
0.054 x 0.034 m.

Fig. 28

Buff bowl with offset flat, outward extending rim; red glazed bands on rim and on interior surface of bowl.

Graffito on exterior wall below rim: **m e** (retrograde)

Second quarter of the 6th century B. C.

**2B-6 Gray ware jug**

P 532 KH-room 1  
H. 0.237; D. body 0.190; D. base 0.086 m.

Fig. 28

Gray ware jug with flat base, round body, high trefoil neck, vertical strap handle.

Graffito on shoulder, to right of handle: **y**

Second quarter of the 6th century B. C.

**2B-7 Bichrome fruit stand**

P 4482 + P 4495 CM-CC3-E  
H. 0.142; D. bowl 0.280; D. foot 0.114 m.

Fig. 28

Lydian fruit stand with high pedestaled foot. Interior of bowl covered with white slip and bichrome painted design: three rows of red and black circles around central star, white bands in between filled with concentric black pendent and red upright half-circles; underside of bowl has red and black ray pattern. Foot red painted with two black bands around pedestal.

Graffiti, on underside of bowl, same letter on either side of pedestaled foot: **y**; and on underside of foot: **y**

First half of the 6th century B. C.

**2B-8 Bichrome fruit stand**

P 4494 CM-CC3-E  
D. bowl 0.281 m.

Fig. 28

*Circa* two-thirds of bowl from large fruit stand of Lydian fabric; interior white-slipped with red bands, in between which are rows of alternating pendent and upright red concentric half-circles; exterior of bowl has painted design similar to interior.

Graffiti on underside of bowl, same letter on either side of attachment of pedestaled foot: **y**; **y**

First half of the 6th century B. C.

**2B-9 Gray ware pedestaled foot<sup>43</sup>**

I 537 CM-CC3-E  
PH. 0.046; D. foot 0.088 m.

Fig. 28

*Circa* one-third of pedestaled foot of gray polished stemmed dish.

Graffiti on interior of hollow stem: **r s s**

First half of the 6th century B. C.

**2B-10 Black polished fruit stand**

I 538 CM-CC3-E  
0.144 x 0.127; Est. D. rim 0.33 m.

Fig. 29

Section of rim and wall of large shallow bowl from black polished fruit stand.

Graffito on exterior surface of bowl: **y**

First half of the 6th century B. C.

**2B-11 Black polished pedestaled foot**

I 541 CM-CC3-C  
0.124 x 0.066; Est. D. foot 0.15 m.

Fig. 29

*Circa* one-third of pedestaled foot from black polished stemmed dish.

Graffito on underside of foot: **y**

First half of the 6th century B. C.

**2B-12 Sherd from black polished pedestaled foot**

I 531 CM-CC3-C  
0.040 x 0.031 m.

Fig. 29

Sherd from outer edge of foot of black polished stemmed vessel.

Graffito on underside of foot: **y**

First half of the 6th century B. C.

**2B-13 Red painted pedestaled foot<sup>44</sup>**

I 548 CM-CC3-G  
0.084 x 0.039; Est. D. foot 0.13 m.

Fig. 29

Sherd from pedestaled foot of red painted stemmed dish.

Graffito on underside of foot: **y**

First half of the 6th century B. C.

**2B-14 Base of black polished bowl**

MU-54-40-32 Tumulus C  
Max. dim. 0.077; Est. D. foot 0.065 m.

Fig. 29

*Circa* half of base of black polished bowl with low ring foot.

Graffito on underside of base: **y**

Before third quarter of the 6th century B. C.

**2B-15 Gray polished bowl**

I 96 CM-Gate-S  
Max. dim. 0.081 m.

Fig. 29

Rim fragment of shallow gray polished bowl.

Graffiti on exterior: ---]r

Second half of the 6th century B. C.

**2B-16 Attic bolsal fragment**

P 5624 CM-WML-4N  
Max. dim. 0.053; Est. D. foot 0.075 m.

Fig. 29

Section of floor, wall, and foot of Attic black glazed bolsal. Underside of base reserved except for black glaze circle, red miltos around inner edge of ring foot. Palmette stamps on floor.

Graffito on underside of base: **s**

Fourth quarter of the 5th century B. C.

**2B-17 Black-on-red fruit stand**

I 498 CM-TB7-A1  
0.067 x 0.045 m.

Fig. 29

Sherd from bowl of fruit stand, probably West Anatolian fabric. Upper surface glazed red with two sets of three concentric black circles. Lower surface unglazed.

Graffito on exterior surface: **y**

6th century-5th century B. C.

43. Brixhe and Lejeune (1984) no. G-248. Brixhe and Lejeune read **oss**.

44. Brixhe and Lejeune (1984) no. G-254.

**2B-18 Red glazed bowl**

P 1728 CM-MW

H. 0.058; D. 0.144; D. base 0.050 m.

Fig. 29

Deep bowl with low disk foot, carinated flaring rim. Red glazed except for resting surface, purple band around lower exterior wall. Perhaps Lydian.

Graffito on underside of base: **m**

6th century–5th century B. C.

**2B-19 Black polished jug**

P 3215 CM-M5-E, South Cellar

H. 0.13; D. 0.103; D. foot 0.046 m.

Fig. 29

Black polished round-mouthed jug with ring foot, horizontally faceted body, vertical side-attached strap handle.

Graffito on widest part of body, within one horizontal facet: **v e i**

6th century–first quarter of the 4th century B. C.

See **2A-51** for nonalphabetic graffito.**2B-20 Gray polished bowl**

I 353 CM-M6-C, South Cellar

H. 0.03; Est. D. rim 0.14 m.

Fig. 29

*Circa* one-quarter of small gray polished bowl with plain rim and ring foot.

Graffito on outer wall above foot: **y**, below, a vertical line ending in inverted **V**; trace of stroke on underside of base

6th century–first quarter of the 4th century B. C.

**2B-21 Wall sherd of black polished bowl**

I 319 CM-M5-E, South Cellar

0.047 x 0.032 m.

Fig. 29

Fragment from wall of black polished bowl.

Graffito on exterior surface: **n**

6th century–first quarter of the 4th century B. C.

**2B-22 Black polished bowl**

I 349 CM-M6-C, South Cellar

H. 0.042; D. rim 0.142; D. foot 0.057 m.

Fig. 30

*Circa* two-thirds of black polished bowl with disk foot and plain rim.

Graffito on underside of base: **t u**

6th century–first quarter of the 4th century B. C.

See **2A-59** for nonalphabetic graffito.**2B-23 Base of black polished bowl**

I 563 CM-M5-J, M6-E, South Cellar

0.051 x 0.049; D. foot 0.039 m.

Fig. 30

Base and part of lower wall of black polished bowl with concave disk foot.

Graffito on underside of base: **d**

6th century–first quarter of the 4th century B. C.

**2B-24 Base of gray polished bowl**

I 308 CM-M5-F, clay between North and South Cellars

D. foot 0.068 m.

Fig. 30

Base of gray polished bowl with ring foot.

Graffito on underside of base: **y a**

6th century–first quarter of the 4th century B. C.

See **2A-80** for nonalphabetic graffito.**2B-25 Black polished bowl**

I 301 + I 315 CM-M5-E, South Cellar

H. 0.032; D. rim. 0.130; D. foot 0.048 m.

Fig. 30

*Circa* half of black polished bowl with squared flat-topped rim and concave disk foot.

Graffito on exterior wall above foot: **a**, trace of another letter; to the right, inverted **Y**, very light incised

6th century–first quarter of the 4th century B. C.

See **2A-66** for nonalphabetic graffito.**2B-26 Sherd of gray ware bowl**

I 297 CM-M5-E, South Cellar

0.071 x 0.045 m.

Fig. 30

Wall sherd of gray ware bowl.

Graffiti, on exterior and interior surfaces: on interior, **a**; on exterior, semicircle

6th century–first quarter of the 4th century B. C.

**2B-27 Black polished bowl**

P 3400 CM-M6-C, South Cellar

H. 0.041; D. rim 0.160; D. foot 0.070 m.

Fig. 30

Black polished bowl with low ring foot and raised, ledged rim.

Graffito on exterior wall above foot: **a p e**

6th century–first quarter of the 4th century B. C.

See **2A-73** for nonalphabetic graffito.**2B-28 Black polished jug**

P 211 CM-South Trench

H. 0.089; D. 0.095 m.

Fig. 30

Black polished jug with spreading ring foot, wide cylindrical body with biconical upper and lower sections, two horizontal grooves on shoulder, flaring trefoil mouth, vertical side-attached strap handle.

Graffito on body to right of handle attachment: **v o**

6th century–first half of the 4th century B. C.

**2B-29 Gray ware fruit stand**

I 599 CM-South Trench

Max. dim. bowl 0.085; PH. 0.113 m.

Fig. 30

Horizontally ribbed stem of pedestaled foot from small gray ware fruit stand, preserving part of floor of bowl.

Graffito on center floor: **a**

6th century–first half of the 4th century B. C.

**2B-30 Gray ware fruit stand**

I 600 CM-South Trench

Max. dim. bowl 0.065; PH. 0.183 m.

Fig. 30

Horizontally ribbed stem from pedestaled foot of large gray ware fruit stand, preserving small part of floor of bowl. Roughly polished.

Graffito on floor: **a**

6th century–first half of the 4th century B. C.

**2B-31 Black polished fruit stand**

I 601 CM-South Trench

Max. dim. bowl 0.065; PH. 0.161 m.

Fig. 31

Black polished fruit stand with horizontally ribbed pedestaled foot and small part of floor of bowl.

Graffito on floor: **a**

6th century–first half of the 4th century B. C.

**2B-32 Red painted fruit stand**

I 602 CM-South Trench  
Max. dim. bowl 0.166; PH. 0.174 m.

Fig. 31

Buff fruit stand with horizontally ribbed pedestaled foot and broad shallow bowl. Interior of bowl red painted, traces of red paint on underside.

Graffito on center of floor: **a**  
6th century—first half of the 4th century B. C.

**2B-33 Gray polished fruit stand**

P 237 CM-South Trench  
H. 0.106; D. bowl 0.235 m.

Fig. 31

Gray polished fruit stand with spreading pedestaled foot and shallow bowl with carinated flat-topped rim, vertically offset on interior.

Graffito on center floor of bowl: **a**  
6th century—first half of the 4th century B. C.

**2B-34 Pedestaled foot**

I 251 CM-TBT-7B, CM-TBT-8B  
0.070 x 0.039; Est. D. foot 0.12 m.

Fig. 31

Edge of gray polished pedestaled foot.

Graffito on underside of foot: **b a** (retrograde and superimposed)  
6th century—first half of the 4th century B. C.

**2B-35 Base of black polished bowl<sup>45</sup>**

I 430 CM-M7-F (building in WS-10)  
0.060 x 0.059; D. base 0.037 m.

Fig. 31; Pl. 4

Base and part of lower wall of black polished bowl with concave disk foot.

Graffito on underside of base: **n m**  
6th century—first half of the 4th century B. C.

**2B-36 Base of black polished bowl**

I 495 CM-PhWN-2  
0.081 x 0.072; D. foot 0.052 m.

Fig. 31

Base and part of lower wall of coarse, thick-walled black polished bowl with concave disk foot.

Graffito on underside of base: **Y**  
6th century—first half of the 4th century B. C.

**2B-37 Red polished bowl**

I 502 CM-PPB, SE3  
H. 0.034; D. bowl 0.138; D. foot 0.054 m.

Fig. 31

Red painted and polished bowl with concave disk foot and flat, outward extending rim; vertical wall under rim offset from curved lower wall of bowl.

Graffiti, on underside of base: circle in center of foot, **y** to one side; on exterior wall: **a**  
6th century—first half of the 4th century B. C.

**2B-38 Wall sherd of storage vessel**

I 270 CM-PPPN  
0.064 x 0.049 m.

Fig. 31

Wall sherd of coarse pithos, surface fired red.

Graffito on exterior surface: **sf---**  
6th century—first half of the 4th century B. C.

**2B-39 Black polished pedestaled foot**

I 527 CM-CC3-C  
0.053 x 0.020 m.

Fig. 31

Sherd from outer edge of pedestaled foot of black polished stemmed vessel.

Graffito on underside of foot: **v** (retrograde)  
6th century—first half of the 4th century B. C.

**2B-40 Black polished handle**

I 589 CM-ETV-2  
PL. 0.057; W. 0.040 m.

Fig. 31

Section of vertical handle, upper surface flat, lower surface curved, from black polished closed vessel.

Graffito on exterior surface: **a**  
6th century—first half of the 4th century B. C.

**2B-41 Red painted bowl**

P 4260 CM-PPB, SE5  
H. 0.052; D. 0.335 m.

Fig. 31

Large shallow bowl with flat bottom and flaring rim, ridge on exterior at base of rim. Red painted and polished except for resting surface. Same shape and color as **2B-42**.

Graffito on center of floor: **y**  
6th century—first half of the 4th century B. C.

**2B-42 Red painted bowl**

P 4261 CM-PPB, SE5  
PL. 0.190; PW. 0.159; Est. H. 0.055; Est. D. rim 0.330 m.

Fig. 31

*Circa* one-quarter of large shallow bowl with flat bottom and flaring rim, ridge on exterior at base of rim. Red painted and polished. Same shape and color as **2B-41**.

Graffito on center of floor: **y**  
6th century—first half of the 4th century B. C.

**2B-43 Black polished bowl**

P 4027 CM-PPB, SE2  
0.117 x 0.079; Est. D. foot 0.07 m.

Fig. 31

Part of lower wall and base of large thick-walled black polished bowl with ring foot.

Graffito on exterior wall above foot: **g**  
6th century—4th century B. C.  
See **2A-120** for nonalphabetic graffito.

**2B-44 Black polished bowl**

P 1886 CM-MW-2  
H. 0.027; D. rim 0.113; D. foot 0.052 m.

Fig. 31

Small black polished bowl with concave disk foot.

Graffito on exterior wall: **Yir** (retrograde)  
6th century—4th century B. C.  
See **2A-111** for nonalphabetic graffito on exterior wall (Pl. 3).

**2B-45 Orange handle with white-ground coat**

I 172 CM-NCTA-6  
PL. 0.093; W. 0.028–0.036 m.

Fig. 32

Fragment of handle, possibly double-horn handle, of closed orange vessel; handle has white-ground coat.

Graffito on flat lower surface of handle: **d**  
6th century—4th century B. C.

45. Brixhe and Lejeune (1984) no. G-215.

**2B-46 Base of buff polished bowl**

I 341 CM-M6-B

D. foot 0.057; Max. dim. 0.068 m.

Fig. 32

Base and part of lower walls of brown-buff polished bowl with ring foot.

Graffito on underside of base: **a**

6th century-4th century B. C.

**2B-47 Sherd of black polished handle**

I 231 CM-WML-4S

PL. 0.046; W. handle 0.052 m.

Fig. 32

Wall sherd from closed black polished vessel with lower part of broad vertical strap handle with central depression.

Graffito on exterior wall below handle, at right angle to direction of handle: **k**[---

6th century-4th century B. C.

**2B-48 Rim of black polished bowl**

I 389 CM-WS-5/6-S

0.082 x 0.073; Est. D. rim 0.18 m.

Fig. 32

Rim sherd of black polished bowl, flat rim offset on interior.

Graffito on exterior surface: **Υ** curving to the right

6th century-4th century B. C.

**2B-49 Gray ware bowl**

I 401 CM-WS-5/6-S

H. 0.036; Est. D. rim 0.14; D. foot 0.051 m.

Fig. 32

Gray ware bowl with flat rim offset on interior and concave disk foot, interior black polished. Same profile and mark as **2B-48**.

Graffito on exterior above foot: **Υ** turned to right, central stroke extended below letter and curving downward

6th century-4th century B. C.

**2B-50 Black polished vessel**

I 438 CM-WS-5/6-S

0.149 x 0.066; D. foot 0.077 m.

Fig. 32

Base and lower wall of large black polished closed vessel with concave disk foot.

Graffito on underside of base: **d**

6th century-4th century B. C.

**2B-51 Sherd of gray ware vessel<sup>46</sup>**

I 487 CM-PPB, SE2

Max. dim. 0.066 m.

Fig. 32

Sherd from shoulder of closed gray polished vessel. Ridge on upper shoulder; below this, two horizontal grooves, each surmounted by a row of dots. Two parallel grooves extend in vertical line below.

Graffito on exterior surface, to left of vertical grooves: ---]a

6th century-4th century B. C.

**2B-52 Gray polished bowl<sup>47</sup>**

I 512 CM-TB7-A4

0.270 x 0.075; Est. D. rim 0.36 m.

Fig. 32

Rim sherd of large shallow gray polished bowl, plain rim.

Ray pattern burnished on exterior.

Graffito on interior below rim: **v i**

6th century-4th century B. C.

**2B-53 Base of gray ware vessel**

I 517 CM-TB7-A5

0.061 x 0.060; D. foot 0.058 m.

Fig. 32

Base of closed gray ware vessel with ring foot.

Graffito on underside of base: **y**

6th century-4th century B. C.

**2B-54 Sherd of gray ware vessel<sup>48</sup>**

I 557 CM-ETC-2

0.061 x 0.060 m.

Fig. 32

Sherd from wall of closed gray ware vessel.

Graffito on exterior surface: ---]n

6th century-4th century B. C.

**2B-55 Base of black polished bowl<sup>49</sup>**

I 574 CM-SET-W

0.050 x 0.044; D. foot 0.035 m.

Fig. 32; Pl. 4

Base and lower wall of black polished bowl with concave disk foot.

Graffito on center floor: **Τ, i**

6th century-4th century B. C.

**2B-56 Black polished bowl<sup>50</sup>**

I 587 CM-CW-1

H. 0.039; Est. D. rim 0.17; D. foot 0.065 m.

Fig. 33

Circa half of black polished bowl with ring foot, low ridge on exterior wall below rim.

Graffiti on wall: **l a**[---

6th century-4th century B. C.

See **2A-139** for nonalphabetic graffito.

**2B-57 Red painted fruit stand**

P 116 CM-South Trench

H. 0.195; D. bowl 0.330 m.

Fig. 33

Red painted fruit stand with pedestaled foot, hollow stem, shallow bowl.

Graffito on floor of bowl: **a**

6th century-3rd century B. C.

**2B-58 Gray ware handle**

I 25 CM-South Trench

PH. 0.108; W. handle 0.036 m.

Fig. 33

Vertical strap handle and small part of wall of closed gray polished vessel.

Graffito on base of handle: **y**

6th century-3rd century B. C.

**2B-59 Gray ware bowl**

I 575b CM-fallen earth at Building Q

0.073 x 0.047 m.

Fig. 33

Two nonjoining sherds, of which (b) only is incised, from coarse gray ware bowl with ledged rim.

Graffito on exterior surface: **e**

6th century-3rd century B. C.

46. Brixhe and Lejeune (1984) no. G-235. Brixhe and Lejeune read ayl.

47. Brixhe and Lejeune (1984) no. G-243.

48. Brixhe and Lejeune (1984) no. G-260.

49. Brixhe and Lejeune (1984) no. G-275.

50. Brixhe and Lejeune (1984) no. G-266.

**2B-60 Base of gray ware bowl**

I 73 CM-Bldg. A

D. foot 0.069 m.

Fig. 33

Half of base of gray ware bowl with ring foot.

Graffito on underside of base: **me** (ligature).

First half of the 4th century B. C.

**2B-61 Base of black glazed bowl**

I 477 CM-PBP-W2

Est. D. foot 0.09 m.

Fig. 33

Base and part of lower wall of Greek black glazed bowl. Floor and walls totally glazed, underside of base reserved except for central dot and ring. Four palmette stamps on floor.

Graffiti on underside of base in center: *H*; and near foot:  $\Sigma K$

First half of the 4th century B. C.

**2B-62 Gray polished bowl**

I 453 CM-PBP-N1

H. 0.017; D. rim 0.108; D. base 0.065 m.

Fig. 33

*Circa* half of shallow gray polished bowl with disk foot, flaring rim.

Graffito on underside of foot: **v** (or **a**)

First half of the 4th century B. C.

**2B-63 Black glazed plate**

I 89 CM-ETO-1

0.070 x 0.058 m.

Fig. 33

Floor of Greek black glazed plate with palmette stamps and arcs, burned. Undersurface totally glazed.

Graffito on undersurface: **m**

First half of the 4th century B. C.

**2B-64 Base of black glazed bowl**

I 499 Location and context date unknown

Max. dim. 0.101; Est. D. foot 0.12 m.

Fig. 33

Section from base of Greek black glazed bowl with ring foot, palmette stamps on floor. Underside reserved except for two concentric glazed circles. Poor quality black glaze.

Graffito on underside of base: **a**

Second half of the 4th century B. C.

**2B-65 Black glazed bowl**

I 156 CM-NCTA-7

0.054 x 0.030 m.

Fig. 33

Floor of Greek black glazed bowl with rouletting and palmette stamps, grooved ring foot. Totally glazed except for resting surface and scraped groove at join of foot to wall. Burned.

Graffito on underside of base, between central nipple and foot:  $\Sigma$

Second half of the 4th century B. C.

**2B-66 Black glazed bowl<sup>51</sup>**

P 3338 CM-M6-A

H. 0.039; D. rim 0.112; D. foot 0.071 m.

Fig. 33

*Circa* half of Greek black glazed echinus bowl with torus ring foot, grooved resting surface; palmette stamps and

rouletting on floor. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: **e**

Second half of the 4th century B. C.

**2B-67 Base of gray ware vessel**

I 567 CM-SEW

0.087 x 0.052; D. foot 0.077 m.

Fig. 33

Base and part of lower wall of coarse gray ware closed vessel with ring foot, burned.

Graffito on underside of base: *HF* (ligature)

Second half of the 4th century B. C.

**2B-68 Black polished echinus bowl**

I 523 CM-CC3-B

H. 0.034; Est. D. rim 0.12; Est. D. foot 0.08 m.

Fig. 33

*Circa* one-third of black polished echinus bowl with ring foot, scraped groove at join of foot to wall.

Graffito on underside of base:  $\Psi$ 

Second half of the 4th century B. C.

**2B-69 Black glazed fish plate**

I 550 location and context date unknown

Max. dim. 0.090; Est. D. foot 0.08 m.

Fig. 33

*Circa* one-half of ring foot and central depression of Greek black glazed fish plate. Totally glazed except for resting surface and reserved band around depression on floor.

Graffito on underside of base: **i l**

Second half of the 4th century B. C.

**2B-70 Black glazed fish plate**

I 561 CM-NCT

0.090 x 0.055; Est. D. rim 0.26 m.

Fig. 33

Sherd of floor and pendant rim of Greek black glazed fish plate.

Graffito on underside of plate: **e**; below this and at right angle, **u**

Second half of the 4th century B. C.

**2B-71 Gray ware bowl**

P 4366 CM-CC3-A

H. 0.054; D. rim 0.215; D. foot 0.103 m.

Fig. 34

Gray ware bowl with high ring foot and angular inturned rim. Pattern burnished on interior: rays extending out from center of floor to circle under rim.

Graffito on underside of base:  $\Psi$ 

Second half of the 4th century B. C.

**2B-72 Base of black polished bowl**

I 467 CM-WCW-4

Max. dim. 0.064; Est. D. foot 0.06 m.

Fig. 34

Base and part of lower wall of black polished bowl with disc foot.

Graffiti on underside of base: two light scratches; on lower wall: **e**[---

Second half of the 4th century B. C.

**2B-73 Base of gray ware vessel**

I 13 CM-NCT

Max. dim. 0.093; D. foot 0.067 m.

Fig. 34

Half of ring base and fragment of lower wall of closed gray ware vessel.

Graffito on underside of base: **a**

Second half of the 4th century B. C.

51. Winter (1984) 111, no. 21.

**2B-74 Black glazed fish plate**

I 263 CM-PPPS

0.113 x 0.067; Est. D. rim 0.25 m.

Fig. 34

Fragment of Greek black glazed fish plate, preserving rim, flat surface, and part of central depression. Resting surface and underside of base reserved except for glazed ring near edge of foot.

Graffito on underside of base, on glazed ring near edge of foot: *H*

Second half of the 4th century B. C.

**2B-75 Black glazed bowl**

I 51 CM-ET, section 4-b, c

0.087 x 0.062; Est. D. foot 0.09 m.

Fig. 34

Base of Greek black glazed bowl with rouletting; high ring foot with grooved resting surface. Undersurface totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: *ΠΑΜ* (monogram)

Second half of the 4th century B. C.

**2B-76 Black glazed plate**

I 53 CM-ET

0.108 x 0.090; D. foot 0.104 m.

Fig. 34

Base of Greek black glazed plate with ring foot, palmette stamps and rouletting on floor. Undersurface totally glazed except for resting surface.

Graffiti on underside of base: *a*; to right: *b*

Second half of the 4th century B. C.

**2B-77 Base of black glazed bowl**

I 427 CM-WS-9N

Max. dim. 0.061; D. foot 0.068 m.

Fig. 34

Base of Greek black glazed bowl with grooved ring foot, palmette stamps and rouletting on floor. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: *a*

Second half of the 4th century B. C.

**2B-78 Base of gray ware bowl**

I 485 CM-PPB, SE2

Max. dim. 0.077; Est. D. 0.08 m.

Fig. 34

Base of gray ware bowl with ring foot, palmette stamps on floor.

Graffito on underside of base: *e*

4th century B. C.

**2B-79 Black glazed kantharos foot**

P 4171 CM-M6-B

H. 0.036; D. 0.063 m.

Fig. 34

Molded foot of Greek black glazed kantharos.

Graffiti on upper surface of lowest member of foot: small inverted *V*, *I*; and on opposite side: vertical stroke.

4th century B. C.

**2B-80 Sherd of black glazed plate**

I 391 CM-M5-K

0.054 x 0.019 m.

Fig. 34

Sherd from floor of Greek black glazed plate, palmette stamps on interior.

Graffito on underside of plate: *Υ*

4th century B. C.

**2B-81 Black glazed echinus bowl**

I 492 CM-TB8-S3

H. 0.025; D. rim 0.106; D. foot 0.068 m.

Fig. 34

Greek black glazed echinus bowl, misfired red, palmette stamps and rouletting on floor.

Graffito on underside of base: *e*

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-82 Black glazed kantharos<sup>52</sup>**

P 3968 CM-TBW-5

PH. 0.083; D. body 0.095; D. foot 0.049 m.

Fig. 34

Body and foot of Greek black glazed kantharos, vertically ribbed body, molded foot. Totally glazed.

Graffito on underside of foot: *ΠΑΕ* (monogram)

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-83 Fragment of black glazed fish plate**

I 171 CM-NCTA-10

0.072 x 0.042 m.

Fig. 34

Fragment of Greek black glazed fish plate, preserving section from near rim to central depression and part of ring foot; totally glazed except for upper part of inside of foot and underside of depression.

Graffito on undersurface between rim and foot: *---]ΑΓ[---* (retrograde)

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-84 Black glazed fish plate**

I 52 CM-ET

Est. D. foot 0.09; Max. dim. 0.105 m.

Fig. 34

*Circa* half of base and central depression of Greek black glazed fish plate. Upper surface totally glazed; undersurface reserved on resting surface, glazed concentric rings on underside of depression.

Graffito on undersurface: *a b*, and at right angle: *r*

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-85 Black glazed saltcellar**

P 4250 Location and context date unknown

H. 0.031; Est. D. rim 0.059; Est. D. foot 0.05 m.

Fig. 35

*Circa* one-third of Greek black glazed saltcellar with torus ring foot and inturned rim. Totally glazed.

Graffito on underside of base: *b*

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-86 Foot of black glazed kantharos**

I 412 CM-TB8-G

PH. 0.028; D. 0.051 m.

Fig. 35

Molded foot of Greek black glazed kantharos, totally glazed. Graffito on underside of foot: *a*

Second half of the 4th–first quarter of the 3rd century B. C.

**2B-87 Black glazed bowl**

I 570 CM-CC-1955

0.070 x 0.050; Est. D. foot 0.08 m.

Fig. 35

Base of Greek black glazed bowl with rouletting and pal-

52. Winter (1984) 192, no. 79.

mette stamps on floor, grooved ring foot. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: **e**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-88 Ring foot of black glazed bowl**

I 572 CM-SET-N

0.064 x 0.026; Est. D. foot 0.13 m.

Fig. 35

Fragment of ring foot from Greek black glazed bowl with rouletting on floor. Foot glazed except for scraped groove at join of foot to wall, upper half of inner surface of foot, and resting surface.

Graffito on inner surface of ring foot: *HP* (ligature)

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-89 Black glazed bowl**

I 494 CM-SET-N

H. 0.050; Est. D. rim 0.18; Est. D. foot 0.10 m.

Fig. 35

*Circa* one-quarter of Greek black glazed bowl with high ring foot, walls angled to near vertical, everted rim. Palmette stamps on floor; upper surface totally glazed, lower surface reserved on underside of base except for two concentric circles.

Graffito on glazed bands on undersurface: *XA*

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-90 Base of black glazed bowl**

I 642 CM-WS-10, M7-H, RR cut

Max. dim. 0.069; D. foot 0.064 m.

Fig. 35

*Circa* half of base of Greek black glazed bowl with broad ring foot. Palmette stamps on floor. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: *H*

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-91 Base of black glazed bowl**

I 638 CM-Clay Cut C

Max. dim. 0.069; Est. D. foot 0.070 m.

Fig. 35

Base of Greek black glazed bowl with grooved ring foot, palmette stamps and rouletting on floor. Totally glazed with shiny metallic black glaze except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: **me**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-92 Base of black glazed bowl**

I 61 CM-SET-NW

Max. dim. 0.044; D. base 0.038 m.

Fig. 35

Base of small Greek black glazed bowl with ring foot.

Graffito on underside of base near central nipple: **a**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-93 Black glazed saltcellar<sup>53</sup>**

I 514 CM-SET

H. 0.034; Est. D. rim 0.075; D. foot 0.049 m.

Fig. 35

*Circa* half of Greek black glazed saltcellar with inturned rim, ring foot and grooved resting surface. Totally glazed.

Graffito on underside of base: **p**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-94 Black glazed bowl**

I 513 CM-SET-W

H. 0.029; Est. D. rim 0.12; Est. D. foot 0.08 m.

Fig. 35

Greek black glazed echinus bowl with grooved ring foot, rouletting on floor. Totally glazed.

Graffito on underside of base: **m**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-95 Base of black glazed bowl**

I 399 CM-PeW-2

D. foot 0.043 m.

Fig. 35

Base of Greek black glazed bowl with broad ring foot; totally glazed with shiny metallic glaze except for reserved underside of base and resting surface.

Graffito on underside of base: **a**

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-96 Base of black glazed bowl**

I 221 CM-WML-2E

D. foot 0.093; Max. dim. 0.111 m.

Fig. 35

Base of Greek black glazed bowl with ring foot, sloppy black glaze, underside reserved.

Graffiti on unglazed underside of base: *N* at one side, *H* at right angle to this; *X* in center, other random scratches

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-97 Base of black glazed bowl**

I 28 CM-South Trench

D. foot 0.078 m.

Fig. 35

Base of Greek black glazed bowl with grooved ring foot; palmette stamps and rouletting on floor. Solidly glazed except for reserved band at join of foot to wall.

Graffito on underside of base: *HP* (ligature) *A*

Second half of the 4th—first quarter of the 3rd century  
B. C.

**2B-98 Black glazed bowl**

P 3921 CM-PPB-7

H. 0.035; D. bowl 0.108; D. foot 0.055 m.

Fig. 35

Intact Greek black glazed bowl with torus ring foot and thickened, slightly inturned rim. Rouletting and palmette stamps on floor. Totally glazed except for resting surface and scraped groove at junction of foot and wall. Probably from same lot as **2B-99**.

Graffito on underside of base: **u**

Second half of the 4th—first quarter of the 3rd century  
B. C.

53. Winter (1984) 97, no. 8.



**2B-99 Black glazed bowl**<sup>54</sup>

P 3926 CM-PPB-7

H. 0.035; D. bowl 0.116; D. foot 0.061 m.

Fig. 35

Greek black glazed bowl with torus ring foot and thickened, slightly inturned rim. Rouletting and palmette stamps on floor. Totally glazed except for resting surface and scraped groove at juncture of foot to wall. Probably from same lot as **2B-98**.

Graffito on underside of base: **u**; below this, in smaller letters, **a l**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-100 Black glazed kantharos handle spurs**

I 101 CM-ETV-2

PL. (a) 0.043 (b) 0.044 m.

Fig. 35

Two spurs from the handles of a Greek black glazed kantharos.

Graffiti on top of each spur: (a) **a**; (b) semicircle

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-101 Base of black glazed bowl**

I 88 CM-ETO-1

0.044 x 0.039; Est. D. foot 0.050 m.

Fig. 36

*Circa* one-quarter of base of Greek black glazed bowl with palmette stamps and rouletting, grooved ring foot. Totally glazed except for resting surface and groove at join of foot to wall.

Graffito on underside of base: **a**, horizontal stroke to right

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-102 Black glazed bowl**

I 576 CM-fallen earth west of Megaron 12

0.037 x 0.020 m.

Fig. 36

Small fragment from floor of Greek black glazed bowl with rouletting. Totally glazed except for reserved band on underside of wall near join to foot.

Graffiti on floor: horizontal line, **d** at right; and, near ring foot: **a**, **at** (monogram). First **a** on underside appears to have been scratched over completely as if trying to eliminate a mistake.

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-103 Black glazed fish plate**

I 524 CM-WCW-13

0.092 x 0.082; D. foot 0.088 m.

Fig. 36

Center of Greek black glazed fish plate with ring foot and grooved central depression.

Graffito on underside of base: **ΘE**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-104 Base of black glazed bowl**

I 506 CM-PPB, SE5

D. foot 0.060 m.

Fig. 36

Base of Greek black glazed bowl with ring foot, totally glazed.

Graffito on underside of base: **m**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-105 Black glazed echinus bowl**<sup>55</sup>

I 459 CM-PPB-5

H. 0.040; Est. D. rim 0.095; D. foot 0.053 m.

Fig. 36

*Circa* one-third of Greek black glazed echinus bowl, totally glazed except for resting surface and underside of base.

Graffito on underside of base: **Ξ**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-106 Base of black glazed bowl**

I 431 CM-TB8-S3

0.104 x 0.056 m.

Fig. 36

Fragment from floor of large Greek black glazed bowl, palmette stamps and rouletting on floor.

Graffito on underside of base: **e**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-107 Base of black glazed bowl**

I 343 CM-Q

D. foot 0.043 m.

Fig. 36

Base of small Greek black glazed bowl with ring foot and grooved resting surface, upper and lower surfaces totally glazed.

Graffito on underside of base: **ΘE**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-108 Base of black glazed bowl**

I 43 CM-SET-N

0.067 x 0.030; Est. D. foot 0.07 m.

Fig. 36

Base of Greek black glazed bowl with grooved ring foot, palmette stamps and rouletting on floor. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: **XAA**

Second half of the 4th–first quarter of the 3rd century  
B. C.

**2B-109 Black glazed plate**

I 49 CM-ET, section 4-c

0.094 x 0.043 m.

Fig. 36

Fragment from floor of Greek black glazed plate, upper and lower surfaces totally glazed.

Graffito on underside of base: **AA**

Second half of the 4th–first quarter of the 3rd century  
B. C.

54. Winter (1984) 113, no. 26.

55. Winter (1984) 109, no. 15.

**2B-110 Black glazed plate**

I 291 CM-TB-7D

Max. dim. 0.099 m.

Fig. 36

Sherd from floor of large Greek black glazed plate with arcs, palmette stamps, and rouletting on floor. Upper and lower surfaces glazed.

Graffito on lower surface: **ka**

Second half of the 4th—first quarter of the 3rd century B. C.

**2B-111 Black glazed fish plate**

I 216 CM-EML-3E

Max. dim. 0.079; Est. D. foot 0.09 m.

Fig. 36

Central depression and part of ring foot of Greek black glazed fish plate. Upper surface totally glazed; undersurface reserved at join of foot to wall, on resting surface, and on underside of base except for dot and concentric rings.

Graffito on underside of base: **k r i**

Second half of the 4th—first quarter of the 3rd century B. C.

**2B-112 Black glazed echinus bowl**

I 50 CM-ET

H. 0.042; Est. D. rim 0.13; Est. D. foot 0.08 m.

Fig. 36

Greek black glazed echinus bowl, undersurface totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside near central nipple: circled  $\Sigma$ , two small sidelong V's at left

Second half of the 4th—first quarter of the 3rd century B. C.

**2B-113 Neck of buff jar**

I 562 CM-SET-NW

0.103 x 0.102 m.

Fig. 36

Sherd from neck of buff storage jar.

Painted mark on exterior surface: **A**

Second half of the 4th—first half of the 3rd century B. C.

**2B-114 Base of black polished bowl**

I 90 CM-ETO-1

0.105 x 0.076; D. foot 0.066 m.

Fig. 36

Base of black polished bowl with ring foot.

Graffito on underside of base near ring foot: **ua** (ligature)

Second half of the 4th—first half of the 3rd century B. C.

**2B-115 Gray ware vessel**

I 454 CM-PBX-5

D. foot 0.049; Max. dim. 0.070 m.

Fig. 36

Base and lower walls of small gray ware closed vessel with ring foot.

Graffiti on underside of base:  $\Delta H$ , **E** at right angle; and on wall above foot: **MA**

Second half of the 4th—first half of the 3rd B. C.

**2B-116 Red painted bowl**

I 645 CM-Clay Cut C

H. 0.042; Est. D. rim 0.12; D. foot 0.065 m.

Fig. 36

Red painted bowl with ring foot, carinated and everted rim, circle and palmette stamps on floor. Totally painted red except for resting surface and underside of base.

Graffito on underside of base: **k a**; **a** is written perpendicular to **k**

Second half of the 4th—first half of the 3rd century B. C.

**2B-117 Black polished bowl**

I 91 CM-ETO-1

H. 0.038; Est. D. 0.12; D. foot 0.060 m.

Fig. 36

*Circa* one-quarter of black polished bowl with flat-topped, slightly inturned rim and ring foot.

Graffito on underside of base: **m**

Second half of the 4th—first half of the 3rd century B. C.

**2B-118 Black polished vessel**

P 1734 CM-Q-2

PH. 0.070; PW. 0.150; D. foot 0.078 m.

Fig. 37

Lower half of large black polished closed vessel with ring foot, surface vertically ribbed.

Graffito on exterior wall above foot: **a a**, upper parts of letters connected by arc

Second half of the 4th—first half of the 3rd century B. C.

See **2A-186** for nonalphabetic graffito.

**2B-119 Black polished bowl**

P 1811 CM-MW-2

H. 0.036; D. bowl 0.114; D. foot 0.048 m.

Fig. 37

Black polished bowl with high spreading ring foot, rim slightly inturned. Surface badly abraded.

Graffito on exterior wall: **a** (inverted)

Second half of the 4th—first half of the 3rd century B. C.

**2B-120 Buff echinus bowl**

I 105 CM-ETV-2

H. 0.038; Est. D. rim 0.116 m.

Fig. 37

Undecorated buff echinus bowl, partially burned.

Graffito on floor of bowl: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-121 Gray ware fish plate**

P 3540 CM-TB8-C

H. 0.049; Est. D. 0.195; D. foot 0.077 m.

Fig. 37

Gray ware fish plate, partially restored, with high ring foot, shallow open bowl with central depression, pendent rim.

Graffito on underside of base: **k**

Second half of the 4th—first half of the 3rd century B. C.

**2B-122 Red glazed echinus bowl**

P 3621 CM-TB8-S2

H. 0.083; D. rim 0.197 m.

Fig. 37

Orange bowl with high ring foot, inturned rim. Interior surface and exterior rim glazed red.

Graffito on interior wall, below inward curve of rim: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-123 Base of black polished bowl<sup>56</sup>**

I 129 CM-ETO-8

0.104 x 0.086; D. foot 0.071 m.

Fig. 37

Base and lower walls of black polished bowl with ring foot. Burnished rays extending out from foot.

Graffito on underside of base: **a p**

Second half of the 4th—first half of the 3rd century B. C.

56. Brixhe and Lejeune (1984) no. G-162.

**2B-124 Base of black polished vessel**

I 138 CM-East of ETN-2, railroad cut  
0.044 x 0.037; Est. D. foot 0.06 m.

Fig. 37

Base fragment of closed black polished vessel with ring foot.

Graffito on underside of base: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-125 Gray echinus bowl**

I 153 CM-ETO-11  
H. 0.032; D. rim 0.120; D. foot 0.066 m.

Fig. 37

*Circa* half of coarse gray ware echinus bowl with ring foot and inturned rim.

Graffito on underside of base in center: **Ψ**

Second half of the 4th—first half of the 3rd century B. C.

**2B-126 Rim fragment of cooking pot**

I 100 CM-ETV-2  
PH. 0.049; PW. 0.078; Est. D. rim 0.22 m.

Fig. 37

Rim fragment of large coarse gray ware cooking pot.

Graffito on exterior surface below rim: ---]AE

Second half of the 4th—first half of the 3rd century B. C.

**2B-127 Base of gray ware vessel**

I 259 CM-PPPS  
Max. dim. 0.071; D. foot 0.064 m.

Fig. 37

Base of closed gray ware vessel with ring foot.

Graffito on underside of base: EA, and below this A

Second half of the 4th—first half of the 3rd century B. C.

**2B-128 Gray ware bowl with black glaze**

I 173 CM-NCTA-11  
H. 0.038; Est. D. rim 0.106; Est. D. foot 0.058 m.

Fig. 37

*Circa* half of gray ware bowl with vertical rim and ring foot, poor black glaze inside and out.

Graffito on underside of base: **Υ**

Second half of the 4th—first half of the 3rd century B. C.

**2B-129 Gray ware jar**

I 178 CM-Q-1  
PH. 0.122; PW. 0.155; W. handle 0.046 m.

Fig. 37

Neck, shoulder, and vertical strap handle of coarse gray ware jar with everted rim.

Graffito on outer surface of handle: inverted **Υ**

Second half of the 4th—first half of the 3rd century B. C.

**2B-130 Fragment of orange vessel**

I 179 CM-Q-1  
PH. 0.031; Est. D. base 0.05 m.

Fig. 37

Fragment of small flat-bottomed closed orange vessel.

Graffito on base: **u**

Second half of the 4th—first half of the 3rd century B. C.

**2B-131 Base of gray ware bowl**

I 181 CM-Q-1  
D. foot 0.059 m.

Fig. 38

Base of coarse gray ware bowl with ring foot, poor quality black glaze on interior surface.

Graffito on underside of base: **d**; to the left, more lightly incised: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-132 Black polished fish plate**

I 193 + P 2088 CM-MN-2 and CM-WML-2  
H. 0.027; D. rim 0.222 m.

Fig. 38

Black polished fish plate with shallow central depression, pendant rim, ring foot.

Graffito on underside of base, within ring foot: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-133 Wall sherd and handle attachment of gray ware vessel**

I 195 CM-MN-2  
0.092 x 0.076 m.

Fig. 38

Wall sherd of large coarse closed gray ware vessel with [--- end of vertical strap handle.

Graffito on exterior surface, to right of handle spur: **a**[---

Second half of the 4th—first half of the 3rd century B. C.

**2B-134 Gray handle fragment**

I 199 CM-EML-2E  
PL. 0.088 W. 0.042 m.

Fig. 38

Base of broad vertical strap handle of coarse gray ware closed vessel.

Graffito at base of handle: **d** crossed by vertical slash

Second half of the 4th—first half of the 3rd century B. C.

**2B-135 Neck and shoulder of red vessel**

I 217 CM-EML-3E  
0.065 x 0.052 m.

Fig. 38

Fragment of shoulder and stub of neck of red-orange closed vessel.

Graffito on upper part of shoulder: YA (ligature)

Second half of the 4th—first half of the 3rd century B. C.

**2B-136 Base of buff vessel**

I 244 CM-NE-1, railroad spur  
Est. D. foot 0.08 m.

Fig. 38

*Circa* one-quarter of base of closed buff vessel with ring foot.

Graffito on underside of base: **Ψ**

Second half of the 4th—first half of the 3rd century B. C.

**2B-137 Red painted bowl**

I 272 CM-TB7-A  
0.072 x 0.060; D. foot 0.059 m.

Fig. 38

Buff bowl with ring foot, palmette stamps on floor. Interior surface and exterior walls above foot red painted.

Graffito on underside of base: **Σ**

Second half of the 4th—first half of the 3rd century B. C.

**2B-138 Buff echinus bowl**

I 359 CM-WS-7  
H. 0.031; D. bowl 0.098; D. foot 0.058 m.

Fig. 38

*Circa* two-thirds of buff echinus bowl, partially burned, palmette stamps around central circle on floor.

Graffito on underside of base: ΠΣ

Second half of the 4th—first half of the 3rd century B. C.

**2B-139 Wall sherd of gray ware vessel**

I 365 CM-WS-5/6  
0.132 x 0.078 m.

Fig. 38

Sherd from wall of large coarse gray ware closed vessel.

Graffito on exterior surface: **a**

Second half of the 4th—first half of the 3rd century B. C.



**2B-155 Gray ware echinus bowl**

I 465 CM-WCW-4

H. 0.036; D. rim 0.115; D. foot 0.070 m.

Fig. 39

Gray ware echinus bowl, intact except for small chips on rim.

Graffito on underside of base: **r**

Second half of the 4th—first half of the 3rd century B. C.

**2B-156 Base of black polished bowl**

I 471 CM-WCW-6

Max. dim. 0.102; D. foot 0.066 m.

Fig. 39

Base of black polished bowl with spreading ring foot.

Graffito on underside of base:  $\Sigma$

Second half of the 4th—first half of the 3rd century B. C.

**2B-157 Sherd of orange closed vessel**

I 476 CM-TB8-S

Max. dim. 0.058 m.

Fig. 39

Wall sherd of coarse orange storage vessel.

Graffito on exterior: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-158 Gray ware fish plate**

I 478 CM-PBX-E

Est. D. rim 0.250; Est. D. foot 0.120 m.

Fig. 39

Two nonjoining pieces of gray ware fish plate. (a) only has graffito.

Graffito on underside of plate near ring foot: *H*

Second half of the 4th—first half of the 3rd century B. C.

**2B-159 Base of gray ware vessel**

I 480 CM-PPB-SE2

Max. dim. 0.094; D. foot 0.078 m.

Fig. 39

Base of coarse gray ware closed vessel with ring foot.

Graffito on underside of base: **d**

Second half of the 4th—first half of the 3rd century B. C.

**2B-160 Base of red painted bowl**

I 481 CM-PPB-SE2

0.085 x 0.078; D. foot 0.065 m.

Fig. 39

Base and part of lower wall of bowl with ring foot. Interior and exterior walls red painted, resting surface and underside of base reserved. Palmette stamps on floor.

Graffito on underside of base: **d a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-161 Base of closed buff vessel**

I 191 CM-MN-2

D. foot 0.053 m.

Fig. 40

Base and lower wall of closed buff vessel with ring foot.

Graffiti on underside of base: **d k i**; and at a right angle to these and more heavily incised, **k**

Second half of the 4th—first half of the 3rd century B. C.

**2B-162 Base of black polished bowl**

I 486 CM-PhWN

Max. dim. 0.076; Est. D. foot 0.07 m.

Fig. 40

Base of black polished bowl with concave disc foot.

Graffito on underside of base: **d**

Second half of the 4th—first half of the 3rd century B. C.

**2B-163 Gray polished bowl**

I 503 CM-PPB-SE4

H. 0.042; Est. D. rim 0.155; D. foot 0.063 m.

Fig. 40

Gray polished bowl with spreading ring foot, inward thickened rim.

Graffito on underside of base: **d**

Second half of the 4th—first half of the 3rd century B. C.

**2B-164 Base of gray ware vessel**

I 79 CM, NE corner

0.148 x 0.102; D. foot 0.093 m.

Fig. 40

Base of large closed gray ware vessel with ring foot.

Graffito on underside of base in center: **ar** (ligature)

Second half of the 4th—first half of the 3rd century B. C.

**2B-165 Black polished bowl**

I 504 CM-PPB-SE4

H. 0.045; Est. D. rim 0.16; Est. D. foot 0.06 m.

Fig. 40

*Circa* one-quarter of black polished bowl with concave disk foot, flat rim. Light scoring on underside of foot appears to imitate rouletting.

Graffito on exterior wall below rim: **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-166 Base of black polished bowl**

I 505 CM-PPB-SE4

Max. dim. 0.071; D. foot 0.047 m.

Fig. 40

Base of black polished bowl with ring foot.

Graffito on underside of base: **d**

Second half of the 4th—first half of the 3rd century B. C.

**2B-167 Base of red painted vessel<sup>59</sup>**

I 509 CM-WCW-9

0.078 x 0.055; Est. D. foot 0.055 m.

Fig. 40

Base and part of lower wall of red painted and polished closed vessel with low disc foot; exterior surface totally painted.

Graffito on underside of base: **k u** (retrograde)

Second half of the 4th—first half of the 3rd century B. C.

**2B-168 Base of gray ware bowl**

I 80 CM-NE corner

0.071 x 0.040 m.

Fig. 40

Fragment of base of bowl with ring foot; palmette stamps on floor.

Graffito on underside of base:  $\Upsilon$  above **a**

Second half of the 4th—first half of the 3rd century B. C.

**2B-169 Gray ware handle**

I 525 CM-WCW-13

PL. 0.142; W. 0.042 m.

Fig. 40

Large broad vertical strap handle with central ridge, from gray ware jug or amphora.

Graffito on exterior, on upper curve of handle: *H*

Second half of the 4th—first half of the 3rd century B. C.

**2B-170 Base of red painted bowl**

I 529 CM-WCW-13

0.064 x 0.063; D. foot 0.060 m.

Fig. 40

Base of red painted bowl with ring foot, circle incised onto center floor before firing or decorating.

59. Brixhe and Lejeune (1984) no. G-241.

Graffito on underside of base: X in center, a near outer edge

Second half of the 4th—first half of the 3rd century B. C.

**2B-171 Base of black bowl**

I 542 CM-PhWN-7

0.086 x 0.059; Est. D. foot 0.08 m.

Fig. 40

Sherd from base of coarse black bowl with concave disk foot. Graffito on underside of base: y; above this, in smaller letters, k a

Second half of the 4th—first half of the 3rd century B. C.

**2B-172 Sherd of gray ware vessel<sup>60</sup>**

I 560 CM-NCT

0.074 x 0.068 m.

Fig. 40

Sherd from wall of coarse closed gray ware vessel.

Graffito on exterior surface: curved line extending up from Hittite mark; below this, s e t

Second half of the 4th—first half of the 3rd century B. C.

See 1A-4 for graffito applied before firing.

**2B-173 Black polished bowl**

I 82 CM-NE corner

H. 0.038; Est. D. rim 0.18; Est. D. foot 0.07 m.

Fig. 40

Circa one-fifth of shallow black polished bowl with ring foot.

Graffito on exterior side wall: two curved lines connected at top, another curved line to right, possibly l i

Second half of the 4th—first half of the 3rd century B. C.

**2B-174 Base of gray ware vessel**

I 565 CM-SET-W

0.100 x 0.075; D. foot 0.078 m.

Fig. 40

Base and small part of lower wall of closed gray ware vessel with ring foot.

Graffito on underside of base: d

Second half of the 4th—first half of the 3rd century B. C.

**2B-175 Base of gray ware vessel**

I 566 CM-ETC-2

0.076 x 0.073; Est. D. foot 0.08 m.

Fig. 40

Base and part of lower wall of coarse gray ware closed vessel with spreading ring foot.

Graffito on underside of base: u

Second half of the 4th—first half of the 3rd century B. C.

**2B-176 Base of closed gray vessel**

I 166 CM-NCTA-11

0.081 x 0.072; D. foot 0.079 m.

Fig. 40

Base of coarse gray closed vessel with ring foot.

Graffito on underside of base near ring foot: a

Second half of the 4th—first half of the 3rd century B. C.

**2B-177 Lamp nozzle**

L 222 CM-Bldg. A

Max. dim. 0.057; L. nozzle 0.032 m.

Fig. 41

Nozzle and part of body of Greek black glazed lamp. Groove around pour channel. Originally glazed inside and out, exterior glaze now much worn.

Graffito on upper surface of nozzle: *muta* (monogram)

Circa 300 B. C.

**2B-178 Buff fish plate**

P 403 CM-NCT

H. 0.033; D. rim 0.171 m.

Fig. 41

Buff polished fish plate with ring foot, central depression, rim offset with low ridge. Depression and rim carelessly glazed.

Graffito on underside of base: Σ

Second half of the 3rd century B. C.

**2B-179 Orange fish plate**

P 706 CM-SET-NW, Roger

H. 0.048; D. rim 0.168 m.

Fig. 41

Intact orange fish plate with high ring foot; walls curve upward sharply to narrow pendent rim.

Graffito on underside of plate near foot: n

Second half of the 3rd century B. C.

**2B-180 Buff fish plate**

P 794 CM-SET-NW, Roger

H. 0.033; D. rim 0.143; D. foot 0.050 m.

Fig. 41

Intact buff fish plate with ring foot, upswung sides, everted rim, shallow central depression.

Graffito on underside of plate: k a n

Second half of the 3rd century B. C.

**2B-181 Base of buff polished bowl**

I 27 CM-South Trench

D. foot 0.067 m.

Fig. 41

Base of buff polished bowl with ring foot.

Identical graffiti on underside of base and on floor: ΔΣ

Second half of the 3rd century B. C.

**2B-182 Red banded bowl**

P 1198 CM-ETO-11

H. 0.044; Est. D. 0.132 m.

Fig. 41

Buff bowl with ring foot, angular inturned rim. Inside and outside of rim and three circles on floor painted red.

Graffito on exterior wall below rim: m

Second half of the 3rd century B. C.

**2B-183 Red banded bowl**

I 590 CM-ETO-12

H. 0.046; Est. D. rim 0.075; D. foot 0.060 m.

Fig. 41

Buff bowl with ring foot and vertical in-and outward thickened rim offset from bowl. Red painted decoration: three concentric circles with three dots between each circle, and band around interior and exterior of rim.

Graffito on plain exterior wall surface below rim: m

Second half of the 3rd century B. C.

**2B-184 Red banded bowl**

I 592 CM-ETO-12

0.069 x 0.030 m.

Fig. 41

Rim sherd of buff bowl. Offset vertical rim, red painted on interior and exterior surfaces.

Graffito on exterior wall below rim: m

Second half of the 3rd century B. C.

**2B-185 Base of red glazed bowl**

I 188 CM-Q-2

Max. dim. 0.063; Est. D. foot 0.07 m.

Fig. 41

Base of Greek red glazed bowl with ring foot. Floor has

60. Brixhe and Lejeune (1984) no. G-263.

large tear-drop palmettes surrounded by two concentric grooves. Upper and lower surfaces totally glazed.

Graffito on underside of base: **a b**

Second half of the 3rd century B. C.

**2B-186 Gray ware bowl**

P 3388 CM-North Building

H. 0.050; Est. D. rim 0.24; Est. D. foot 0.07 m.

Fig. 41

*Circa* one-quarter of large silvery-gray bowl with flat everted rim and raised disk foot.

Graffito on floor of bowl: *HE* (retrograde); below this, more lightly incised: *H*

Second half of the 3rd century B. C.

**2B-187 Gray ware jug**

P 103 CM-South Trench

H. 0.145; D. 0.130 m.

Fig. 41

Coarse gray ware trefoil jug with flat bottom, round body, vertical strap handle; shoulder offset from neck by ridge and groove.

Graffito on shoulder:  $\Psi$

3rd century B. C.

**2B-188 Wide-mouthed gray ware jar**

P 178 CM-South Trench

H. 0.288; D. body 0.321 m.

Fig. 41

Coarse gray ware jar with flat bottom, rounded body, wide mouth with squared everted rim, vertical strap handles.

Graffiti on shoulder, one letter on each side of vessel in handle zone: X (left), a (right)

3rd century B. C.

See **3B-33** for capacity mark.

**2B-189 Fragment of buff bowl**

I 137 CM-Clay Cut

0.086 x 0.037; Est. D. bowl 0.22 m.

Fig. 41

Fragment of buff bowl with red painted, outward thickened rim.

Graffito on exterior wall below rim:  $\Psi$

3rd century B. C.

**2B-190 Gray ware bowl**

P 411 CM-ET

H. 0.056; D. 0.111 m.

Fig. 42

Coarse gray ware bowl with high ring foot, plain rim slightly inturned.

Graffito on interior floor:  $\Psi$

3rd century B. C.

**2B-191 Lamp nozzle**

I 142 CM-ETC-3

PL. nozzle 0.039; Max. dim. 0.06

Fig. 42

Nozzle and section of wall from gray ware lamp.

Graffito on upper side of nozzle: **a p**

3rd century B. C.

**2B-192 Orange bowl**

P 384 CM-SET-W, surface

H. 0.063; D. rim 0.140; D. foot 0.062 m.

Fig. 42

Orange bowl with hemispherical walls, flat-topped inward thickened rim, ring. Interior and exterior surface below rim glazed red.

Graffito on exterior wall below glazed areas: **m a** (letters appear to have been intentionally scratched over)

3rd century B. C.

**2B-193 Base of gray ware vessel<sup>61</sup>**

I 106 CM-ETO-3

0.100 x 0.067 Est. D. foot 0.10 m.

Fig. 42

Base and part of lower walls of closed gray ware vessel with grooved ring foot.

Graffito on underside of base: **t i b**

3rd century B. C.

**2B-194 Gray ware echinus bowl**

I 42 CM-SET-N

0.085 x 0.049; Est. D. bowl 0.13 m.

Fig. 42

Rim fragment of gray ware echinus bowl. Poor quality black glaze on exterior of rim and interior surface of bowl.

Graffito on outer wall below rim: **b**

3rd century B. C.

**2B-195 Neck of storage vessel**

I 292 CM-TB7-D

PH. 0.095; PW. 0.080 m.

Fig. 42

Fragment from neck and upper part of shoulder of large orange storage vessel.

Graffito on exterior surface: **a**

3rd century B. C.

**2B-196 Gray ware handle**

I 46 CM-NCT

L. 0.092; W. 0.018 m.

Fig. 42

High swung vertical handle of gray polished jug, oval section.

Graffito on handle loop near join to neck:  $\Xi$

3rd century B. C.

**2B-197 Base of orange bowl**

I 461 CM-TBW-4

D. base 0.063 m.

Fig. 42

Base of coarse orange-buff bowl with ring foot, burned.

Graffito on underside of base: **a**

3rd century B. C.

**2B-198 Base of black bowl**

I 482 CM-TB8-S2

Max. dim. 0.068; Est. D. foot 0.07 m.

Fig. 42

Base of coarse black bowl with ring foot.

Graffito on underside of base: **ae** (ligature)

3rd century B. C.

**2B-199 Gray ware saltcellar**

I 491 CM-SET

H. 0.041; D. rim 0.070; D. foot 0.044 m.

Fig. 42

Slightly over half of gray ware saltcellar with ring foot and inturned rim; poor black glaze covers entire surface except for resting surface and underside of base.

Graffito on exterior wall: **a** (inverted)

3rd century B. C.

61. Brixhe and Lejeune (1984) no. G-158.

**2B-200 Black polished bowl**

I 81 CM-NE corner

H. 0.041; Est. D. rim 0.16; Est. D. foot 0.08 m.

Fig. 42

*Circa* one-quarter of black polished bowl with flat rim and concave disc foot.Graffito on exterior wall, just above foot:  $\Upsilon$   
3rd century B. C.**2B-201 Base of gray ware vessel**

I 83 CM-SET-NW, Roger

0.093 x 0.076; D. foot 0.084 m.

Fig. 42

Base of large closed gray ware vessel with ring foot.

Graffito on underside of base near ring foot: **d**  
3rd century B. C.**2B-202 Base of black bowl**

I 71 CM-SET-W, surface

Max. dim. 0.069; Est. D. bowl 0.073 m.

Fig. 42

Base of coarse black bowl with ring foot.

Graffito on underside of base: in large letters,  $\Upsilon$ , a; a smaller letter to the left: a  
4th century-3rd century B. C.**2B-203 Base of closed buff vessel**

I 72 CM-SET-W, surface

0.073 x 0.063; D. foot. 0.061 m.

Fig. 42

Base of closed buff vessel with ring foot, partially burned.

Graffito on underside of base:  $\Upsilon$   
4th century-3rd century B. C.

## Section 2C Pictures

Pictures form the third type of owner's mark found on the pottery of Gordion. The number of vases with pictures incised onto them after firing is relatively small. In most cases the pictures seem to represent the personal whim of the owner of the vessel, although there are a few scenes which recur on other objects and may have a wider significance.

The earliest example, **2C-1**, is a graffito on the handle of a red polished jug of the Late Bronze Age. The mark is connected chronologically with the pieces of the Hittite Empire period discussed in section 1 which have graffiti done before firing (**1A-1** to **1A-10**). The graffito itself is a picture of a common type of Hittite pottery,<sup>1</sup> the beak-spouted jug. The jug graffito is probably not a simple illustration, however, but a Hittite hieroglyphic sign, for pottery shapes were frequently used as hieroglyphic signs during the Empire period.<sup>2</sup> They could have several different meanings, although most appear to be proper names. A sign virtually identical to the Gordion graffito is attested on pottery at Alişar Hüyük<sup>3</sup> and on seals from Boğazköy.<sup>4</sup> These have been interpreted as proper names, and it is likely that the Gordion example also represented a name.

The remaining pictures all occur on Phrygian wares. One (**2C-2**) is found on a piece from the latter part of the eighth century B. C., and the remainder (**2C-3** to **2C-13**) on pieces of the sixth through third centuries B. C. All are found on bowls and small jugs, and are presumed to be marks of

identification incised on the vessels by their owners. This is especially probable for those pieces which have other types of owners' marks in addition to the pictures, such as **2C-7**, which also bears a nonalphabetic graffito, **2A-114**, and **2C-3**, with the name *voine*.

The picture of a hawk on **2C-2** is of special interest, not only because of the subject but also because of the provenience of the piece. The hawk was the sacred bird of the principal Phrygian divinity *Matar Kubileya*, or Kybele, as the Greeks called her,<sup>5</sup> and representations of the hawk abound at Gordion, including depictions of the individual bird<sup>6</sup> and sculptural representations of the goddess holding the bird.<sup>7</sup> This particular hawk, with its broad eye and fat, curved beak, is extremely similar to several hawks scratched onto the walls of buildings from the level of the city preceding the Kimmerian destruction, the so-called "doodle-stones;"<sup>8</sup> in fact, it almost appears as if both sets of graffiti were done by the same hand. The vessel with the hawk graffito was found near the doodle stones and in the same stratigraphic level. It has been suggested that the hawks on the doodle-stones have a religious significance,<sup>9</sup> but since the vessel on which this picture appears is a coarse ware jug or jar, it is difficult to see any religious symbolism here. It is more likely to be an emblem of personal identification, perhaps a kind of good luck charm, drawn by a worker in this quarter of the city.

A hawk (now missing its head) also appears on the

1. Examples are illustrated by Bossert (1942) figs. 632, 635, 636, 654.

2. Laroche (1960) 177-86, nos. 333-359.

3. Von der Osten (1937) 410, no. d 1807.

4. Laroche (1960) nos. 345, 354.

5. For the Phrygian name of the goddess, see Brixhe (1979) 40-45.

6. Several examples are illustrated by Mellink (1963-64) 30-32.

7. Bittel (1963) pl. 11 a and b.

8. Young (1969a) 270-275, especially the illustration on p. 275. On the excavation of the doodle stones, see Young (1958) 142-143.

9. Mellink (1963-64) 32.



handle of a beautiful black polished jug fragment (2C-3). This particular hawk, with finely detailed feathers and curved talons, is similar to an alabaster hawk found in a sixth- or fifth-century B. C. context. The stone hawk wears two collars, one of them bronze, and bears an inscription which appears to be a dedicatory text.<sup>10</sup> The vase on which the hawk graffito appears could have been a votive offering, although since it was found in a mixed deposit of the sixth through fourth centuries B. C., its original use is unknown. The hawk was incised above one of the more common proper names (*voine*) and could also be a personal emblem rather than one of religious significance.

Another interesting picture is a scene of a horse and rider (2C-11). The depiction shows a mounted

rider holding the reins and wearing an unusual type of hat, a broad-brimmed object with a tall center point which tips toward the front, somewhat different from the conical headgear which the Greeks usually associated with Oriental costume.<sup>11</sup> A Phrygian stamp seal found in Gordion (SS 156) has as its device just such a horse and rider wearing a similar cap, demonstrating that the scene could be a form of personal identification.

The remaining pictures are all fairly simple examples of animal forms: five fish, a cock, a stork, and two scenes of uncertain meaning. They require little comment, except to point out that the Phrygian fondness for depictions of animals, attested on painted pottery and other objects,<sup>12</sup> carried through to graffiti on pottery as well.

## Catalogue

### Pictures (2C-1 to 2C-13)

#### 2C-1 Red polished handle

P 4666 Common cemetery under Tumuli H and I  
PL. 0.065; D. handle 0.021 m.

Fig. 43

Red polished roll handle from Hittite beaked jug.

Graffito on upper surface of handle, near join to neck: beak-spouted jug

14th century-12th century B. C.

#### 2C-2 Wall sherd of buff vessel

P 4361 CM-under anteroom floor of TB 7  
0.068 x 0.065 m.

Fig. 43; Pl. 4

Two joining sherds from wall of coarse reddish buff closed vessel.

Graffito on exterior surface: hawk

Second half of the 8th century B. C.

#### 2C-3 Black polished jug<sup>13</sup>

I 468 CM-PPB-7

L. 0.060; W. handle 0.028 m.

Fig. 43; Pl. 4

Lower part of vertical strap handle and wall of reeded black polished jug, very fine black polish. Alphabetic graffito on lower part of handle: *voine*.

Graffito on exterior surface of handle: hawk

6th century-4th century B. C.

#### 2C-4 Base of black polished jug

I 370 CM-WS-9

Max. dim. 0.087; Est. D. foot 0.06 m.

Fig. 43; Pl. 4

Base and lower wall of black polished jug with ring foot,

exterior surface horizontally faceted.

Graffito on underside of base: picture, scene uncertain  
6th century-first half of the 4th century B. C.

#### 2C-5 Base of black polished bowl

P 1392 CM-ETO-12

0.049 x 0.040; Est. D. foot 0.03 m.

Fig. 43

Base of black polished bowl with disk foot.

Graffito on underside of base: fish

6th century-4th century B. C.

#### 2C-6 Black polished shoulder fragment

P 2957 CM-TBT-CC3

0.078 x 0.044 m.

Fig. 43; Pl. 4

Single fragment, broken all around, from shoulder of black polished closed vessel, probably a jug. Finely polished.

Graffito on exterior surface: cock

6th century-4th century B. C.

#### 2C-7 Base of black polished bowl

I 393 CM-WS-5/6-N

0.092 x 0.073; D. foot 0.053 m.

Fig. 43; Pl. 4

Base and part of lower walls of black polished bowl with concave disk foot.

Graffito incised on underside of foot: fish

6th century-4th century B. C.

See 2A-114 for nonalphabetic graffito.

10. Young (1964) pl. 83, fig. 6.

11. The tall pointed "Phrygian" cap is discussed by Kahil (1972) 271-284, and Bovon (1963) 579-602.

12. The Phrygian animal style on painted pottery is discussed and

illustrated by Sams (1974) 169-196. Note also the frequent depictions of animals, in addition to hawks, on the doodle stones, Young (1969a) 270-275, and also a bone ornament of a hawk and hare, Young (1964) pl. 84, fig. 14.

13. Brixhe and Lejeune (1984) no. G-228.

**2C-8 Base of black polished bowl**

I 413 CM-WS-7N  
0.085 x 0.058; D. foot 0.055 m.

Fig. 43

Base and lower walls of coarse black polished bowl with concave disk foot.

Graffito on underside of foot: schematic fish  
6th century-4th century B. C.

**2C-9 Gray ware jug**

P 3172 CM-TB7-A  
PH. 0.078; PW. 0.110 m.

Fig. 43

Sherd from upper part of shoulder and neck of gray ware jug.

Graffito on shoulder: left half of irregular rectangle with oval inside, zigzag lines extending above and below (an animal?)

Second quarter of the 4th century B. C.

**2C-10 Sherd from closed vessel**

P 1775 CM-MW-2  
0.120 x 0.073 m.

Fig. 43

Wall sherd from large coarse gray-buff vessel.

Graffito on exterior surface: bird, possibly a stork

Second half of the 4th-first half of the 3rd century B. C.

**2C-11 Black polished bowl**

P 3773 CM-PPB-3  
0.094 x 0.061; D. foot 0.059 m.

Fig. 43; Pl. 4

Base and part of lower walls of black polished bowl with disk foot.

Graffito on underside of foot: horse and rider

Second half of the 4th-first half of the 3rd century B. C.

**2C-12 Base of black polished bowl**

I 233 CM-WML-3B  
Max. dim. 0.084; D. foot 0.075 m.

Fig. 43

Base of black polished bowl with ring foot, finely polished.

Graffito on underside of base: schematic fish

Second half of the 4th-first half of the 3rd century B. C.

**2C-13 Gray polished vessel**

I 169 CM-NCTA-11  
0.066 x 0.056 m.

Fig. 43

Wall sherd of closed gray polished vessel with angular profile.

Graffito on exterior surface: forepart of one fish and tail of another

3rd century B. C.

## Part III

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# Commercial and Numerical Notations

There are a number of marks found on the pottery of Gordion which appear to have a commercial or economic significance. These fall into two general categories. The first comprises those marks which appear to be commercial trademarks, found on vases imported into Gordion. There is also a series of

marks found on locally manufactured pottery which are evidently numerical texts of various kinds. These generally occur on closed containers and large storage vessels and appear to indicate the capacity of the vessel or the volume of its contents.

### *Section 3A Commercial Trademarks on Imported Vases*

A number of marks found on pottery at Gordion can be classed as commercial trademarks. This is indicated in large part by the fact that these marks all occur on vessels imported into Gordion. Most appear on Greek vases from various cities; in addition there is one example of a Carian ligature on a vessel which appears to be of West Anatolian origin. The existence of a mark on an imported vase is not in itself a sure criterion of commercial significance, for, as has been noted in part II, (p. 11) a number of Greek and West Anatolian vases have marks applied by their owners, local inhabitants of Gordion. The position and meaning of the marks presented in this section, as well as the nature of the vessels on which they appear, is, however, most consistent with a commercial interpretation.<sup>1</sup>

Both graffiti and dipinti were used to mark vessels imported into Gordion. On the fine glazed wares, the

graffiti are normally found on the underside, although there is one example of a graffito on the exterior of a red-figured krater (3A-3). Commercial graffiti also appear on the shoulder or neck of several coarse ware vessels. There are several dipinti, including one in black paint on the underside of a black glazed cup, and several in red paint applied to the necks of transport amphoras.

Graffiti on Greek black glazed and red-figured pottery provide the firmest starting point for an examination of commercial trademarks. The pottery can usually be dated fairly precisely, and in some cases its city of origin can be determined. Moreover, trademarks on Greek vases have been carefully studied, and so there is a large body of material available for comparison. The graffiti on fine Greek wares in Gordion are of two kinds, acrophonic numerals, and letters and ligatures.

### *Acrophonic Numerals*

Acrophonic numerals appear on several different shapes: a red-figured krater and skyphos and black glazed cups, small bowls, and a fish plate. The earlier black-glazed and the red-figured pieces are definitely Attic, but the provenience of the later black glazed pieces, while uncertain, is probably not Attic.<sup>2</sup>

Before we consider how to interpret these acrophonic numerals, several points should be noted about them. The marks on 3A-1 and 3A-3 consist of a single *delta*. An isolated *delta* is also attested as an owner's mark at Gordion,<sup>3</sup> but the presence of this letter on imports and comparison with the other

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1. Johnston (1975b) 146-147, has summarized the approaches to the problem of interpreting vase marks, and his comments aid greatly in distinguishing owner's marks from commercial trademarks.

2. Winter (1984) 3-4.

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3. See above, 2B-23, 2B-45, 2B-50, 2B-131, 2B-134, 2B-159, 12B-162, 2B-163, 2B-174, and 2B-201. These all appear on vases of local fabric.

marks which are clearly acrophonic numerals suggest that the *delta* on these pieces are numbers. The *delta* on the krater (3A-3), a red-figured piece of the late fifth or early fourth century B. C., is incised on the exterior wall of the vessel, and this location also suggests a commercial meaning. The letter is inconspicuously placed and small enough so that it would not be disfiguring, while its situation on the wall makes the mark readily readable. The great majority of trademarks on red-figured vessels are found on the underside of the piece, but a small number do occur on more visible parts of the pot.<sup>4</sup>

The mark on the black glazed fish plate (3A-7) is a ligature, probably a combination of  $\Delta I$ , although it could also be  $\Delta T$ . Neither ligature is noted among the owners' marks, and the mark is more likely to have a commercial meaning. The same mark occurs on an Attic black glazed bowl of the late fourth century B. C. found at Labraunda.<sup>5</sup> The Labraunda mark has been interpreted to mean "ten talents," but this seems an impossibly large figure, and a combination of  $\Delta I$ , meaning eleven, seems more reasonable. This same ligature also appears on several Attic red-figured pieces exported to Italy, and here also the marks may be acrophonic numerals.<sup>6</sup> On 3A-2 and 3A-5 the marks are not complete.

Acrophonic numbers found on Greek pottery can have a variety of meanings. Some possibilities, such as the volume of a vessel or of its contents, or the weight of the empty vessel,<sup>7</sup> are excluded for the Gordion pieces, since the numbers all occur on open shapes. The occurrence of numerical inscriptions on a group of vases found outside their place of manufacture suggests that the numbers should have a commercial significance, perhaps denoting the price, a lot number, or the quantity of pieces in a lot. If we consider the numbers to be notations of price, that is, the price of the vase itself,<sup>8</sup> several difficulties arise. The question of price inscriptions has been carefully studied,<sup>9</sup> and a comparison with such price inscriptions found on Attic vases shows that the numbers found on the Attic vases imported into Gordion make little sense as prices of individual vases. Price notations generally included the name of the vase

and often the denomination of the currency paid, whether drachmas or obols. Frequently both the price of a lot of similar vases and the number of pieces in the lot are noted. This is true of Attic wares imported into Ionia as well; compare, for example, the price inscription of an Attic black glazed cup reportedly found in Smyrna.<sup>10</sup> None of the graffiti on the Gordion vases suggests that the number refers to price (*time*), nor whether the price was per piece or per lot. Moreover, if the number refers to the price of the individual vase, these numbers are much too large, for the prices given are completely out of line with what is known for similar vase shapes in Greece, even if we assume that these are not prices paid at the factory, but farther on down the line of shipment.<sup>11</sup>

If they do not indicate prices, then the numbers should refer to some other aspect of a commercial transaction, such as the number of pieces in a given lot or the shipment number of the lot. Vases clearly were imported into Gordion in lots from the same potter's establishment, a fact demonstrated by the existence of several bowls of similar size and shape and with the identical type of palmette stamps.<sup>12</sup> 3A-6 provides an example of this—it appears on a vessel bearing the same palmette stamp found on other unmarked small black glazed bowls found at Gordion.

The text of 3A-2 suggests a record of the number of pieces in a lot, e.g.,  $\delta\xi\upsilon\beta\acute{\alpha}\rho\omega]\nu\Delta\Delta\Delta[-$ . The other numerical graffiti, however, give no hint of the item which was being listed, and the numbers may refer to a quantity of the shape on which the graffiti appears. For example, the number 16 on 3A-4 could mean a batch of sixteen skyphoi, and the fact that skyphoi were being counted would have been self-evident to the handler by the mere fact that the number appears on a skyphos. It is also possible that the numbers which are unaccompanied (that is to say, all but 3A-2) were simply the batch numbers or shipment numbers of a given lot of vessels. In that case, 3A-4, for example, would indicate that lot 16 was destined for Gordion, as opposed to lot 15, which was to be shipped to another city.

The numbers were probably applied to the vessels shortly after their manufacture by the commercial

4. Johnston (1979) 177-178.

5. Hellström (1965) 47-48, no. 50.

6. Johnston (1979) 108-109, type 6C. Johnston (1979) 201, suggests that the mark may be numerical.

7. Lang (1956) 1. Another possible interpretation discussed by Lang (1976) 21-23, that of numerical notations on sherds, has not been considered, for that would imply that the numerical notations were made in Gordion, and the people of Gordion did not use the acrophonic numeral system.

8. Since these are all open shapes, there can be no question of noting the price of the contents.

9. The best study is that of Amyx (1958) 287-307, with earlier bibliography.

10. Hackl (1909) no. 609. Johnston (1979) 169, type 26F, no. 14.

11. Compare the prices listed by Amyx (1958) 294, and Amyx (1941) 179-192. Compare also the price notation on a red-figured skyphos in Braunschweig, giving the price as 1 drachma, 4 obols for 15 pieces, CVA Deutschland 4, Braunschweig 1 (Munich 1940) pl. 27, 6-7. The price inscription of the Attic vase from Smyrna (above, no. 10) gives a price of 9 drachmas for 31 pieces.

12. Winter (1974) 28 n. 41 and pp. 114-116, nos. 28-31.

handlers in their city of origin. In the case of marks on Attic vessels (3A-1 to 3A-4) the marks would have been applied by an Attic trader, which is what we would expect, since the numbers correspond to the Attic system of numerical notation.<sup>13</sup> The origins of 3A-5 to 3A-7 are not certain, but they may well have been manufactured in the Greek cities on the Anatolian coast, such as Ephesos or Smyrna.<sup>14</sup> Here the use of the acrophonic numeral system might seem surprising, since we would expect Ionic

numbers in an East Greek city. The text on a black-glazed bowl found in Miletos,<sup>15</sup> dated to the fifth through third centuries B. C., provides a useful comparison. The excavators thought the piece to be a local imitation of Attic black glazed ware. On the underside of the base is a graffito, ΗΔΔΔ and below this, Ν. The acrophonic numeral was evidently applied locally and appears to refer to the number of pieces in a lot, and the Ν may be the personal mark of the commercial handler.<sup>16</sup>

### *Letters and Ligatures*

There are two other examples of trademarks on imported black glazed wares. The dipinto on a black glazed cup-skyphos of the early fourth century (3A-8) was done in black paint, apparently after firing, for the lettering is beginning to fade slightly. It is probably a commercial mark, for lettering done in the potter's workshop would have been applied before firing. The clay and shape of the vessel appear unmistakably Attic, but there is no diagnostic letter to indicate the origin of the dipinto. On the second example, a monogram of ΠΑ appears on the underside of a Greek black glazed bowl (3A-9). The mark, a graffito, is large and deliberate, as if trying to attract attention. The identical ligature also appears on the necks of two transport amphoras (3A-16, 3A-17), suggesting that the mark on this piece too was a trademark.

In addition to these marks on fine Greek wares, graffiti are found on the shoulders of five large coarse ware closed vessels, which were probably imported into Gordion for the value of their contents. 3A-10 appears on a large lekythos, which may have been used for transporting oil. Another vessel (Gordion inventory number P 1971, unpublished) of nearly identical shape, size, and fabric, but without a mark, has also been found at Gordion, suggesting that these vessels were coming to the city in lots. 3A-11 is a four-barred sigma scratched onto the neck of a Thasian transport amphora. The presence of a typically Greek sigma in such a prominent place on an imported vessel suggests that the letter is a

trademark. 3A-12 appears on a small vessel which may be a Thasian fractional transport amphora, the only small amphora with a commercial graffito at Gordion. Thasian wares were commonly imported to Gordion, as will be discussed below. The origin of the vessel with 3A-13 is unknown, although the micaceous fabric and black glaze which imitates marbling seem to indicate a Lydian provenience. The vessel was not a transport amphora, but its large size and lack of decoration imply that it was imported for its contents. The mark is the typical four-barred Greek sigma. 3A-14 may be a trader's mark or an acrophonic numerical text, and the corner of a stamp preserved on the sherd may also have been part of an identifying mark. The origin of the vessel itself is unknown.

There is also a series of large transport amphoras (3A-15 to 3A-23) with red marks painted on the necks. All of the marks were apparently applied after firing, for the paint on each piece is fading and beginning to flake off. The earliest example of such a commercial dipinto at Gordion is a set of two marks found on opposite sides of the neck of a Samian amphora (3A-15). All of the remaining red dipinti are found on Thasian amphoras (3A-16 through 3A-23). The presence of these Thasian amphoras with dipinti from the late fourth and early third centuries corresponds to the large number of Thasian stamped amphora handles of the same period found at Gordion.<sup>17</sup> Several of these dipinti reproduce marks similar to those noted on Thasian stamped

13. The Attic numeral system is conveniently summarized in Meiggs and Lewis (1969) xiv. Note also the studies by Tod (1911-12) 98-133, Tod (1926-27) 141-157, and Tod (1936-37) 236-257, on the acrophonic numeral systems of mainland Greece, and by Johnston (1975a) 360-366, on the numerical system of South Italy.

14. Sparkes and Talcott (1970) 12 n. 17. Winter (1984) 53-55.

15. Kleiner and Müller-Wiener (1972) 80-81, no. 3; pl. 24, no. 4.

16. It is conceivable that some of the examples of isolated letters in the Ionic alphabet on imported wares, e.g., 2B-61, 2B-65, 2B-74, 2B-90 could be numerical notations intended as trademarks, although this is impossible to determine with certainty. Note the comments by Johnston (1979) 27.

17. The stamped amphora handles from Gordion have been identified and studied by Grace (unpublished).

amphora handles from other sites.<sup>18</sup> The neck fragments of the Thasian amphoras with dipinti found in Gordion all lack their handles, and so it cannot now be determined if a dipinto was applied in place of, or in addition to a stamp, although the example of the one Samian piece would suggest that a dipinto was used on amphoras without stamped handles. The choice of a dipinto to mark a transport amphora at a time when stamps applied before firing formed the principal type of identifying mark might seem unusual, although such dipinti on coarse ware amphoras have been noted from other sites.<sup>19</sup> Since the dipinti were applied after firing, it may be that certain vessels whose contents or volume had not been ascertained at the time of manufacture were identified in this way. If the handle stamps represent the mark of the controlling authority on Thasos, as is generally assumed,<sup>20</sup> the vessels with dipinti may have been ones which did not conform to a predetermined volume.

Several of the dipinti are singletons, but two marks recur on more than one amphora. 3A-18 to 3A-20 all have a Δ, and the latter two have an additional I and A, making these two marks virtually identical. 3A-16 and 3A-17 use the same dipinto, a monogram of ΠA; 3A-17 has an additional dot above the monogram. This monogram is identical to a graffito on one of the marked Greek black glazed bowls of the same period (3A-9). The existence of this same mark on fine black-glazed wares and on transport

amphora may be coincidence, for this was a common monogram, but it may also mean that Thasos was a commercial center for handling Greek wares to be shipped to Gordion. An interesting comparandum supports this suggestion, a mark consisting of the identical ΠA dipinto on the neck of a Thasian transport amphora found in Panticapeum and now in the Hermitage.<sup>21</sup> The spread of these marks suggests a trading route from Thasos through the Bosphoros and Black Sea, a route which would then reach Gordion via an overland road from the Propontis.

One further mark (3A-24) which may have had a commercial purpose is included in this section, a mark on a sherd from the shoulder of an amphora of micaceous orange-buff clay. The highly micaceous fabric suggests a Lydian origin for the vessel, although it seems safer to call the piece by the more general term of West Anatolian. The mark, a circle with superimposed Y is very similar to a device found on fifth century coins of Caria and Lycia, and as a countermark on a coin of Phaselis.<sup>22</sup> It appears to be a monogram written in Carian script. A mark characteristic of Caria incised in a conspicuous place on an imported amphora suggests that the people of western Anatolia may have adopted the Greek practice of marking their pottery for export but used distinctive local symbols or letters, just as local Anatolian coin devices combined traditional Anatolian symbols with the Greek practice of coinage.

## Catalogue

### Acrophonic Numerals (3A-1 to 3A-7)

#### 3A-1 Base of Attic black glazed skyphos

I 483 CM-TB8-S2

0.056 x 0.027; Est. D. base 0.08 m.

Fig. 44

Base fragment of Attic black glazed skyphos.

Graffito on underside of base near ring foot: Δ

Second quarter of the 5th century B. C.

#### 3A-2 Fragment of Attic black glazed bolsal

I 104 CM-ETV-2

0.023 x 0.021 m.

Fig. 44

Fragment from base of Attic black glazed bolsal. Fine black glaze with palmette stamps. Underside reserved ex-

cept for three concentric circles of black glaze, one near edge of foot, two near center.

Graffito on underside of base: ---]NAAA[---

Fourth quarter of the 5th century B. C.

#### 3A-3 Attic red-figured krater

P 421a, b + P 4762 CM-TBE2-S1B

0.071 x 0.037 m.

Fig. 44

Eight fragments of large Attic red-figured bell krater. Scene shows male figures at banquet; scene bordered by meander.

Graffito on P 4762b, above lower meander band: Δ (inverted)

First quarter of the 4th century B. C.

18. Note the ΠA ligature attested on several stamped amphora handles from Thasos, Bon and Bon (1957) nos. 1611, 2266; and the ligature AP, on nos. 1332, 1333, 2233.

19. Lang (1976) 1, notes that numerous dipinti on the necks of unglazed amphoras were found in the Athenian Agora, but does not give any details about them. See also Johnston (1979) 1.

20. Grace (1961) 10-11.

21. Pridik (1917) 35, fig. 2.

22. Robinson (1939) 269-275, esp. p. 270 no. 5. An example of a coin with this ligature is conveniently illustrated in Kraay (1976) no. 996.

**3A-4 Attic red-figured skyphos**

P 4863 CM-SET-N  
PH. 0.032; Est. D. base 0.070 m.  
Fig. 44

Base and lower wall of Attic red-figured skyphos with ring foot, groove at join of foot to wall; black glazed bands on foot and on wall above foot, figured scene above (not preserved). Underside reserved except for inner edge of foot and two concentric circles in center.

Graffito on underside of base: *ΔIII*

Date: first quarter of the 4th century B. C.

**3A-5 Black glazed saltcellar<sup>23</sup>**

I 92 CM-ETO-2  
H. 0.033; Est. D. bowl 0.08; Est. D. foot 0.05 m.  
Fig. 44

Half of Greek black glazed saltcellar with ring foot and inturned rim. Totally glazed except for resting surface and scraped groove at join of foot to wall.

Graffito on underside of base: ---]ΔI

Second half of the 4th century B. C.

**3A-6 Base of black glazed bowl**

I 573 CM-SET-W  
0.068 x 0.068; D. foot 0.065 m.  
Fig. 44

Base and spur of lower wall of Greek black glazed bowl with ring foot, rouletting and palmette stamps on floor. Totally glazed except for resting surface and upper half of outer edge of foot. Other bowls (without graffiti) from same lot found at Gordion.

Graffito on underside of base: *ΔΔ*

Second half of the 4th century B. C.

**3A-7 Black glazed fish plate**

I 507 CM-PPB-SE5  
0.050 x 0.048 m.  
Fig. 44

Rim fragment of Greek black-glazed fish plate.

Graffito on lower surface of plate: *Φ*

Second half of the 4th—first quarter of the 3rd century B. C.

### *Letters and Ligatures (3A-8 to 3A-24)*

**3A-8 Attic cup-skyphos**

I 569 location unknown  
Est. D. foot 0.065 Max. dim. 0.040 m.  
Fig. 44

Fragment of ring foot and floor of Attic black-glazed cup-skyphos. Underside of base, resting surface and recessed concave molding reserved. Fine black glaze, rouletting on floor.

Dipinto on reserved underside: *ΕΠI*[---

First quarter of the 4th century B. C.

**3A-9 Base of black glazed bowl**

I 143 CM-ETO-10  
0.072 x 0.048 m.  
Fig. 44; Pl. 5

Base fragment of large Greek black glazed bowl with palmette stamps and arcs on floor. Totally glazed.

Graffito on underside of base: *ΠA* (monogram)

4th century B. C.

**3A-10 Orange lekythos**

P 2468 CM-PP  
H. 0.381; D. shoulder 0.171 m.  
Fig. 44; Pl. 5

Orange-buff Greek lekythos with flat torus base, inverted conical body set off from shoulder at sharp angle, flat shoulder, narrow neck, thickened rim, single vertical strap handle from neck to shoulder, low ridge on neck in handle zone.

Graffito on shoulder: *K* with horizontal line superimposed

Second half of the 4th century B. C.

**3A-11 Rim and neck of transport amphora**

I 284 CM-M5-E  
PH. 0.170; Est. D. rim 0.110 m.  
Fig. 44

Rim, neck, and handle spur of large Thasian transport amphora.

Graffito on lower neck just above shoulder: *Σ*  
Second half of the 4th century B. C.

**3A-12 Small red amphora**

I 568 CM-SENW  
PH. 0.172; D. shoulder 0.138 m.  
Fig. 44

Neck, shoulder, and one vertical strap handle of red-orange amphora; shoulder offset from body at sharp-angle. Probably Thasian fractional.

Graffiti on shoulder: *KA* (ligature)

Second half of the 4th—first half of the 3rd century B. C.

**3A-13 Shoulder fragment of amphora**

I 197 CM-MN-2  
0.176 x 0.118 m.  
Fig. 44; Pl. 5

Fragment of shoulder and small part of neck of amphora, probably Lydian. Horizontal black-glazed band at base of neck appears to be marbling; vertical black-glazed band extends down from this; trace of another horizontal band across shoulder at break in vessel.

Graffito to left of vertical black-glazed band: *Σ*

Second half of the 4th—first half of the 3rd century B. C.

**3A-14 Shoulder of buff amphora**

I 578 CM-fallen earth by Early Phrygian Building  
0.054 x 0.052 m.  
Fig. 44

Sherd from shoulder of buff closed vessel, probably amphora; trace of rectangular stamp at lower right.

Graffito on exterior surface: *ΔI*

4th century—first quarter of the 2nd century B. C.

**3A-15 Neck of transport amphora**

I 458 CM-PBX-5  
PH. 0.246; D. mouth 0.180 m.  
Fig. 44; Pl. 5

Rim, neck, and vertical handles (oval in section) of Greek transport amphora. Rim has broad overhanging lip extending downward at an angle, undercut. Red-buff fabric with white slip. Probably Samian.

23. Winter (1984) 96, no. 5.

Dipinti, on center of neck in handle zone: *A*; and on lower neck, near attachment of one handle to shoulder: *M*  
First half of the 4th century B. C.

### 3A-16 Neck and shoulder of amphora

I 157 CM-NCTA-7

0.127 x 0.082 m.

Fig. 45; Pl. 5

Neck and shoulder of Greek amphora, probably Thasian. Horizontal groove around base of neck.

Dipinto on upper part of shoulder below groove: *ΠΑ* (ligature)

Second half of the 4th–first half of the 3rd century B. C.

### 3A-17 Fragment of amphora neck

P 5127 CM, exact provenience unknown; no context date  
0.093 x 0.077 m.

Fig. 45; Pl. 5

Fragment from neck of orange amphora, probably Thasian; horizontal groove around neck.

Dipinto on exterior surface below groove: *ΠΑ* (ligature) surmounted by dot

4th century–3rd century B. C.

### 3A-18 Neck of Thasian transport amphora

I 266 CM-T-SW

0.060 x 0.048 m.

Fig. 45; Pl. 5

Sherd from neck of large Thasian transport amphora.

Dipinto on exterior: *A*

Second half of the 4th–first half of the 3rd century B. C.

### 3A-19 Neck of Thasian transport amphora

I 267 CM-T-SW

0.068 x 0.045 m.

Fig. 45; Pl. 5

Sherd from neck of large Thasian transport amphora. Horizontal groove across neck.

Dipinto on exterior below groove: *ΔΙ*; below this: *A*

Second half of the 4th–first half of the 3rd century B. C.

### 3A-20 Neck of Thasian transport amphora

I 268 CM-T-SW

0.101 x 0.039 m.

Fig. 45; Pl. 6

Fragment of neck of Thasian transport amphora.

Dipinto on exterior: *ΔΙ*; below this: *A*. Probably same mark as 3A-19

Second half of the 4th–first half of the 3rd century B. C.

### 3A-21 Shoulder of transport amphora

I 276 CM-TB7-A

0.083 x 0.033 m.

Fig. 45; Pl. 6

Fragment from shoulder of pinkish-buff transport amphora, probably Thasian.

Dipinto on exterior: *ΑΡ*

Second half of the 4th–first half of the 3rd century B. C.

### 3A-22 Neck of transport amphora

I 329 CM-TB7-F

0.071 x 0.046 m.

Fig. 45; Pl. 6

Sherd from neck of Thasian amphora.

Dipinto on exterior surface: *NE*

Second half of the 4th–first half of the 3rd century B. C.

### 3A-23 Neck and shoulder of transport amphora

I 338 CM-M6-A

PH. 0.117; D. neck 0.107 m.

Fig. 45; Pl. 6

Neck and upper part of shoulder of large transport amphora, probably Thasian, with incised line at base of neck.

Dipinto on upper part of shoulder: *X*, right side enclosed by vertical line

Second half of the 4th–first half of the 3rd century B. C.

### 3A-24 Shoulder fragment of orange amphora

I 493 CM-WCW-8

0.087 x 0.042 m.

Fig. 45

Fragment from shoulder of amphora, micaceous orange clay, West Anatolian fabric.

Graffito on upper part of exterior surface: circle with superimposed *Y*

5th century B. C.–first half of the 4th century B. C.

## Section 3B Capacity Marks

The second type of mark which provides information about the economic life of ancient Gordion occurs only on vessels of local manufacture. These marks appear to be numerical notations which have some reference to the vessel's contents. The marks are all graffiti and, with one partial exception (3B-29), were all applied after firing. Most of the marks seem to represent units of volume, although a few may also have some reference to the substance contained in the vessel. They have been grouped together under the heading of capacity marks. The

term "capacity mark" is ambiguous, for the marks could denote both the potential volume of an empty vessel and the actual volume or weight of its contents. The Gordion capacity marks evidently filled both of these functions. Because they were incised after firing, the marks were probably first placed on the containers to record the volume or weight of the vessel's contents. Once incised, however, the marks became permanent and stood as a record of the potential capacity of the empty vessel.<sup>1</sup>

Evidence for marks recording information about the contents of a vessel is found among some of the earliest material from the Phrygian city. A trefoil jug (3B-1) from Megaron 9, in the level preceding that of the Kimmerian destruction, has four short slashes

1. This distinction, also noted by Lang (1976) 55–56, should be kept in mind when considering how large a unit of volume the most common capacity mark used in Gordion denoted.



across the base of the handle, probably incised by its owner to record the volume of the vessel's contents. From Megaron 4 of the Destruction Level comes the upper part of a large pithos with seven parallel strokes on the rim (**3B-2**), probably also a notation of the volume of the contents. Both of these vessels are incomplete, and so it cannot be determined what unit the mark refers to. The jug could have held a liquid such as beer, or some other type of food. The pithos was probably used for grain storage. Its presence in an architectural unit which seems to have been part of the palace complex is unexpected, although other objects of practical household use were also found in the major buildings of this quarter of the city.<sup>2</sup> Such a large vessel may have held grain designated for an entire section of the city and so the capacity mark could have been an official storage record.<sup>3</sup>

One complete pithos (**3B-3**) was found in the ruins of houses underlying the ruins of Tumulus E, debris which must clearly be older than the burial's date, the end of the sixth century B. C. The profile of the rim of this pithos appears close to those from the Kimmerian destruction debris, and this vessel too may be of early seventh century date. It bears two sets of marks, six short slashes on the rim (or possibly more, now obscured by a break in the rim), and five longer slashes on the widest point of the wall; the left one and right two are crossed by short diagonal lines. A rim fragment (**3B-4**) from a similar vessel was found in the mantle of Tumulus E; it has several short slashes running parallel to the end of the rim, bounded by a perpendicular line. This piece also surely comes from the debris of private houses, although its date could range forward in time to the end of the sixth century B. C.

The largest group of capacity marks occurs on vessels found in the levels of the City Mound from the sixth through early fourth centuries B. C. There are twenty-two examples of marks (**3B-5** to **3B-26**) five on complete or nearly complete vessels, and seventeen on fragmentary vessels. Two different shapes are represented. The majority of the marks occur on large ovoid pithoi, the standard type of storage vessel at Gordion; three sets of marks occur on coarse gray ware jugs (**3B-10**, **3B-13**, **3B-18**). Most of the marks on the pithoi occur on the shoulder or the wall

of the vessel, although in two instances (**3B-6**, **3B-20**) marks are found on the pithos rim.<sup>4</sup> Of the three jugs with capacity marks, two were marked on the shoulder and one on the handle. Two different forms of marks were used, straight parallel strokes and circles. As noted above, the practice of incising parallel strokes as tallying marks had been known in Gordion from the eighth century B. C. It is probably the most obvious way of keeping track of the contents of a vessel and is found in other areas of the Mediterranean apart from Phrygia.<sup>5</sup> The use of circles as a form of numerical notation, however, seems particularly characteristic of Gordion. As this is the more common type of notation, it will be considered first.

During the sixth through fourth centuries there are twenty examples of vessels with this type of capacity mark (**3B-5**, **3B-7** to **3B-19**, **3B-21** to **3B-26**). The circles are of varying sizes, ranging from 0.014 m. to 0.054 m. in diameter. With one exception, all the circles are symmetrical and have a fairly deep central dot, indicating that they were drawn with some form of compass. On the one odd piece (**3B-22**) the inciser also used a compass, but handled it so haphazardly that these circles are very irregular. One of the pieces, a gray ware jug (**3B-18**), has two concentric circles. Seventeen of the twenty examples occur on large storage pithoi. On sixteen of these pithoi the circle appears in a prominent place on the shoulder or side wall of the vessel. The two circles on **3B-12** are in a less obvious place, just below the rim; these are also the smallest circles in the series, 0.014 m. in diameter. Six of the pithoi (**3B-7**, **3B-9**, **3B-11**, **3B-21**, **3B-23**, **3B-26**) have a stroke in addition to the circle marks. Circles also occur on three gray ware jugs, two sets on the shoulder (**3B-10**, **3B-18**) and one on the handle (**3B-13**).

The chronological range of the occurrences of the circular capacity mark extends from the late seventh century until the early third century B. C. The earliest instance of a compass-drawn circle occurs on a pithos sherd found in the mantle of one of the burial tumuli excavated by the Körte expedition in 1900 (**K-II**).<sup>6</sup> The burial is probably to be dated to the early sixth century B. C., and the mantle fill over it was evidently taken up from the debris of abandoned houses in the vicinity,<sup>7</sup> suggesting that the vessel with

2. DeVries (1980b) 36-37.

3. No vessels with capacity marks were found in the Terrace or CC Buildings or in other Destruction Level structures used for the storage and preparation of food, although a large number of open bowls with identifying marks were found in these areas; see **12A-14** to **2A-27**.

4. One pithos (**3B-6**) has marks on both the shoulder and the rim.

5. Lang (1956) 3-6, and Lang (1976) 56, give numerous examples of tallying strokes on vessels from the Athenian Agora. See also Johnston (1979) 30-31.

6. Körte (1904) 122, no. 54, fig. 106. The location of Tumulus K-II is given on Plan 1.

7. A great deal of pottery in typical household shapes was found in the tumulus mantle. Tumulus K-II lies near Tumulus H, where a sherd with an incised mark was also found in the fill (**2B-1**).

the capacity marks should be dated somewhat before the early sixth century. Apart from this piece, the vessels with circle notations were found in various locations on the City Mound, with the exception of one pithos which had been reused for a burial outside the city (**3B-9**). Four of the vessels were found in the same room in Building A, a structure which also contained several vessels with marks incised before firing,<sup>8</sup> and it seems likely that the room served as a storage unit. The proveniences of the other incised pithoi or pithos sherds cover much of the area within the ancient city, and each vessel or sherd comes from a context suggesting household use. Three of the pithoi also bear a proper name incised after firing in the local script, presumably the name of the owner (**3B-5**, **3B-7**, **3B-30**).<sup>9</sup> Two others have nonalphabetic marks in addition to the capacity mark, a triskeles incised before firing next to **3B-8** (see **1A-14** for triskeles) and a crescent incised after firing on **3B-12** (see **2A-87** for crescent). The wide spread of proveniences for vessels with capacity marks and the presence of names or other marks of personal ownership indicate that this notation system was in general use throughout the city.

Since the circles normally occur on storage vessels, the marks have been assumed to record the volume of the vessels' contents, with each circle representing one volume unit.<sup>10</sup> The vertical strokes which appear with the circles would then represent smaller or fractional units. Only three of the pithoi with circles are complete enough to be measured, and the volumes of these three were measured at the time of their finding, two with grain and one with sand. The first (**3B-5**), with four circles, had a volume of 95.04 liters measured with wheat. The second (**3B-8**), with one and a half circles, had a volume of 43 liters measured with sand. The third (**3B-9**) consists of three circles, and the vessel had a volume of 60 liters, measured with barley. From these measurements, the circle would seem to represent 23.8 liters for **3B-5**, 28.7 liters for **3B-8**, and 20 liters for **3B-9**. The statistics produced by these measurements are not very satisfactory, however, for the use of different substances to measure the same type of vessel can produce different results.<sup>11</sup> Moreover, in two cases (**3B-5**, **3B-9**) no record was made of the degree of fullness in

measuring, i. e., whether the vessel was measured to the base of the neck, the top of the rim, or something else. The circles on each of these three vessels are of varying sizes, those on **3B-5** being the largest, and on **3B-9** the smallest. If the dotted circle indicates a single unit, the implication is that the unit represented the quantity of 20–28 liters,<sup>12</sup> a variation of 28%, and that the size of the circle had nothing to do with the value of the unit. The range in the size of the unit may result in part from imprecise measuring, and also from the likelihood that one or more of the pithoi was not full when its contents were originally recorded.<sup>13</sup> We should remember too that the pithoi were intended purely for local use, and there is no reason to expect the same precision of standardization as has been noted in large Greek containers intended for an export market.

It is also possible that the circle capacity mark may represent something other than a simple unit of volume, for this same mark also appears on three gray ware jugs (**3B-10**, **3B-13**, **3B-18**). All three of these jugs are incomplete, but one preserves at least three dotted circles in a vertical row on the handle. While these vessels seem to have been fairly large specimens of the jug shape, they are still considerably smaller than the pithoi, and a comparison of the jug with three circles on its handle with other, better preserved examples, demonstrates that this jug would certainly not have been large enough to contain 60-plus liters of any substance. It is possible that instead of, or in addition to a unit of volume, the circle may also have been a means of identifying the substance which was stored in these jugs. It is likely that the pithoi contained wheat or another grain, although none was found with any part of its contents remaining. Jugs were also used to store smaller quantities of grain and other types of food,<sup>14</sup> but since the jug shape suggests a liquid, perhaps beer,<sup>15</sup> the circle unit on a jug could have indicated the potential volume of liquid contained in it. Thus the circle unit could have referred to two different units of measure altogether, perhaps a large and small unit of grain, or perhaps the distinction between a wet and dry measure. In either case the choice between them would have been obvious to anyone looking at the shape of the vessel.

8. **1A-15**, **1A-16**, **1A-17**.

9. Young (1969b) nos. 41, 42, and 77; Brixhe and Lejeune (1984) nos. G-116, G-117, G-150.

10. Edwards (1963) 46–47. Young (1969b) 272 n. 43.

11. See Wallace Matheson and Wallace (1982) 302–320, and Johnson, Koehler, Wallace Matheson, and Wallace (unpublished).

12. Edwards (1963) 46–47, identified the dotted circle as a unit representing approximately 25 liters.

13. Even if more accurate data on the volume of these pithoi can be obtained, the results would have to be used with caution. Since we can never be certain how full the vessel was when the capacity marks were originally incised, merely dividing the volume of the filled vessel by the number of circles on its exterior may always produce misleading results. Note the remarks of Lang (1976) 55–56.

14. DeVries (1980b) 36.

15. Sams (1977) 108–115.

Two pithoi from the Middle Phrygian Level city have a different kind of numerical notation, simple strokes incised in parallel lines on the vessel. One of these (3B-6) is nearly intact, while only the rim is preserved from the other pithos (3B-20). The intact pithos has marks on two areas, eight on the body of the vessel and five on its rim.<sup>16</sup> It is not known whether the use of two sets of strokes refers to the two different units of measurement or measurement of the volume of the contents on two different occasions. The use of simple tally marks was evidently the older form of numerical notation, and since it was less frequently used after the seventh century B. C., it may have been largely, if not entirely superseded by the circle notation system.

The circle and the stroke, the two types of numerical notations used in Gordion during the sixth through early fourth centuries B. C., continued to be used during the post-monumental phase of the city. Rows of parallel strokes are found on 3B-27 and 3B-28, and circles occur on 3B-30 and 3B-32.<sup>17</sup> The archaeological context of these vessels indicates that they were used during the late fourth or early third centuries; not surprisingly, the same types of numerical notations continued to be used by the local inhabitants. An oddity is found on 3B-31, a pithos rim which has both parallel strokes and circular holes gouged into the rim, the latter evidently in imitation of compass-drawn circles.

New types of numerical marks are found from the latter part of the fourth century B. C. onward. A large pithos (3B-29) has three vertical strokes on its rim done after firing; next to this are four deeply drilled holes done before firing creating four small circles. This combination of numerical marks done both before and after firing is unparallelled, although one pithos has an identification mark done before firing (1A-14), as well as a capacity mark done after firing (3B-8). The marks on 3B-29 may have been intended to indicate that the potential capacity of the vessel was four units of a certain measure, and its actual volume was three units. Another unique mark is a series of points drilled after firing onto one handle

16. Note the pithos found under Tumulus E (3B-3), which has two similar sets of marks.

17. For the relatively late date of 3B-30, a pithos with a text in Phrygian script as well as a capacity mark, see Young (1969b) 292, and Brixhe and Lejeune (1984) 135, no. G-150.

18. Similar sets of drilled points also occur on a pithos sherd of the Middle Phrygian Level, which also bears the circle form of numerical notation (3B-17). Drilled points could be used as nonalphabetic owners' marks: note 2A-16, on a red painted jug from the Destruction Level, and 2A-78, on a handle from a black polished jug of the Middle Phrygian Level. In both cases the vessels are small containers, and so it is possible that these points too may record the contents of the vessel.

of an open gray ware jar of the third century B. C. (3B-33). These probably refer to the capacity of the jar, since the vessel also has two letter graffiti as identifying marks.<sup>18</sup>

The circle was clearly the favored form of numerical notation throughout much of the occupation of the Phrygian city. Presently it appears difficult, given the limited material available for study, to determine precisely what unit the circle represented, but suggestions can be made about the possible origin of the mark. A similar type of circular mark is found on pithoi from the Urartian site of Kayalidere.<sup>19</sup> The Kayalidere marks, generally found in clusters of two, three, or more, were incised before firing onto the rims of a group of pithoi found together in a single room. The archaeological context suggested a date in the late eighth century B. C. The excavators of the site interpreted these marks as numerical units. The Kayalidere capacity marks do not form an exact parallel with the circular remarks on the Gordion vessels, for they are smaller and were incised before firing. The marks are similar enough, however, to suggest that the dotted circle may have represented a known unit of capacity in Anatolia.<sup>20</sup>

A different type of notation, one which uses the Ionic numeral system, is found on several pithoi from the Hellenistic period. The Ionic system, based on letters of the Greek alphabet, had been the standard form of numerical notation in the East Greek cities from the sixth century B. C.<sup>21</sup> The first Gordion texts which use the Ionic numeral system, however, date from the late third or early second century B. C. The texts appear on a series of pithoi from the structure called the Level Two House, from the level of the Galatian occupation.<sup>22</sup> One room of this house, designated the Pithos Room, produced a large number of storage pithoi. Five of these pithoi, preserved only in fragments, have graffiti on the shoulder or wall of the vessel (3B-34 through 3B-38). All preserve a letter graffiti, *K* or *KAA*, and four of them (3B-34, 3B-36 to 3B-38) also have a numerical text.<sup>23</sup> These texts appear to combine abbreviations of units of measurement with numbers in

19. Burney (1966) 89, fig. 17.

20. The Kayalidere capacity marks are most similar to 3B-29, capacity marks found on a pithos rim of late fourth or early third century B. C. date. The chronological gap between the two sets of marks makes it uncertain, however, whether these Gordion marks derive directly from the Urartian precedent, or form a variation on the more common circle incised after firing.

21. For a description of the Ionic numeral system, see Larfeld (1914) 290-301, and Tod (1950) 126-139.

22. For the excavation of this structure, see Young (1951) 7.

23. There is so little of the text preserved on 3B-35 that we cannot be absolutely certain that it included a number, but the provenience of this vessel and the similarity of its letters to the texts on the other four pithoi makes this probable.

the Ionic system. All of the numerical texts on these pithoi are difficult to interpret since none of the vessels is complete, and their texts also may not be complete. This is definitely the case with **3B-38**, for the graffiti occur on three nonjoining fragments of the vessel.

The most straightforward text, **3B-34**, reads: *KAA IA*. *KAA* appears on four of the five vessels, and so it seems likely that this was an abbreviation of a proper name. The *IA* following this should mean 'eleven' in the Ionic numerical system. There is no indication of what unit is being counted. The text of **3B-35**, although less well preserved, may read the same way.

The remaining three pithoi (**3B-36** through **3B-38**) have longer and more complicated graffiti, and in each of these examples part of the text evidently records the units of measurement as well as the quantity being measured. A key to what type of unit was being recorded is furnished by a marble block uncovered near the modern city of Uşak, in Phrygia.<sup>24</sup> The block is of first century A. D. date, but the units of measurement on it correspond to those used in the Pontic region of Anatolia as early as the fourth century B. C.<sup>25</sup> The block contains seven depressions, corresponding to seven units of volume, which are named on the block: *kypros*, *modios*, *choinix*, *chondrou xestes*, *dikotylon*, *kotyle*, and *xestes*. These are all units of dry volume, the type of unit which would be used in large storage vessels which presumably contained grain. The actual quantities comprised by these units appear to conform to the Pergamene system of measurements, in which units of volume were approximately twice as large as the corresponding Attic units.<sup>26</sup>

The first mark of this group of three to be considered, **3B-36**, has two separate notations. The first reads *K*, and then  $\text{♣} \text{C}$ . The *K* may be a shorter form of the name abbreviated as *KAA* on the other pithoi. The next character is evidently a monogram for *M[O]AI[OS]*, this is followed by the numerical digamma, or six. The other text on this vessel reads *HM* (ligature) *H*, and underneath this *K*  $\text{C}$ . The *HM* ligature may well be an abbreviation for *hemi*, or half of some unit. Which unit was recorded is not certain, but each of the units recorded on the block from Uşak decrease in volume by a factor of one-half, and so this could be an alternate local name for one of the smaller units. It is followed by *H*, presumably eight. Underneath this the *K* may be an abbreviation for *kotyle*, the digamma recording six, and the horizontal bar perhaps a fraction, such as a half. The pithos

would have held six *modioi*, eight *hemis*, and six and a half *kotyles*.

The graffito **3B-37** is a little simpler to untangle. It reads: *KAA HK*. The first three letters are presumably the same abbreviated name as is found on three of the other pithoi. The *H* may well be an abbreviation for the *hemi* unit noted in **3B-36** and the *K* records twenty of these units.

**3B-38** is a more complicated problem, for here the text is preserved on three nonjoining fragments whose relationship to one another is unclear. The largest fragment retains part of the rim and so was placed highest on the vessel. The upper line of the graffito on this fragment reads *HM H*. This is identical to the initial line on **3B-36**, and may be also be interpreted to read eight *hemis*. Below this are *KK-I*, and in much smaller letters *KI*. The double *KK* may be an abbreviation for twenty *kotyle* followed by a fraction, perhaps a half and a quarter. The remaining letters may mean seven *kotyle*, and could have been added as an afterthought, perhaps the result of an extra quantity of material being added to the jar, perhaps the result of more precise measuring. The graffiti on the two nonjoining wall fragments can be read *KAA* and *AE*, the first evidently the same three letters as are found in **3B-34**, **3B-35**, and **3B-37**, and the second perhaps part of another name.

These readings should be regarded as tentative, for the vessels on which they occur are incomplete, and it is impossible to verify the suggested quantities by actual measurements. It seems unlikely, however, that such a large number of storage vessels with generous capacities was attached to a single household, and so the vessels probably stored grain for one section of the city. The letters *KAA* may have identified an official's name or the name of the storage district.

Units in the same measuring system also appear in texts found on two gray ware jugs from the Hellenistic levels at Gordion. One jug (**3B-39**) is complete except for a portion of the rim; only a section of the wall is preserved from the other (**3B-40**). The complete jug bears the text *dikotylon*, one of the units of volume attested on the Uşak block, while on the other the text reads ---]KOTYA[---, which could be restored either as *dikotylon* or *kotyle*. On measuring the nearly complete jug with water, it proved to have a volume of ca. 1.4 liters when filled to the top of the rim. The Pergamene *dikotylon* was equivalent to 0.912 liters,<sup>27</sup> which appears to be and this is consistent with the capacity of the jug from Gordion, when one con-

24. Hultsch (1882) 572-573.

25. Hultsch (1882) 573-575.

26. Hultsch (1882) 573.

27. Hultsch (1882) 573.

siders that the space contained within the rim and neck of the jug probably would not have been filled.

Thus the types of capacity marks found in Gordion reflect the varying character of the site's occupation. The two marked vessels from the predestruction and Destruction Levels demonstrate the use of a system of numerical recording as early as the eighth century B. C., even if only in the form of simple strokes. The numerical system represented by the circle first appeared in the early sixth century B. C. and remained the favored form of notation until the late fourth

century B. C. This particular mark may represent an Anatolian system of numbering, for a similar system was also used in Urartu. The appearance of a completely different system in the third century B. C., Pergamene units of measurement recorded with Ionic numbers, corresponds to the increasing degree of Hellenization noted elsewhere in the city.<sup>28</sup> At all periods the numerical records at Gordion seem to have been intended for purely internal use, for they appear exclusively on fabrics of local manufacture and on vessels most suitable for storing foodstuffs.

## Catalogue

### Capacity Marks (3B-1 to 3B-40)

#### 3B-1 Gray ware double roll handle

P 5541 CM-Phrygian court south of Meg. 9

PL. 0.064; D. handle 0.037 m.

Fig. 46

Upper half of high-swung, vertical, double roll handle from gray ware trefoil jug.

Graffiti on highest point of handle's curve: two sets of two slashes on each segment of handle, at right angle to direction of handle

8th century B. C.

#### 3B-2 Rim, neck, and shoulder of pithos

I 260 CM-Meg. 4

PH. 0.128; W. rim 0.073; Est. D. rim 0.52 m.

Fig. 46

Neck and shoulder of large orange pithos with flat, outward extending rim, burned.

Graffiti on upper surface of rim: seven parallel strokes at right angle to edge of rim

First quarter of the 7th century B. C.

#### 3B-3 Gray pithos

P 420 Tumulus E, house debris under mantle

H. 0.840; D. body 0.490; D. rim 0.374 m.

Fig. 46; Pl. 6

Large gray pithos with flat bottom, ovoid body, flat everted rim with thickened torus around outer edge.

Graffiti, on outer edge of rim: six parallel strokes; and on widest part of body: five vertical strokes, left one crossed by diagonal line, two at right crossed by horizontal line

Before end of the 6th century B. C.

#### 3B-4 Pithos rim

I 611 Tumulus E, tumulus mantle

Max. dim. 0.070 m.

Fig. 46

Section of everted rim from large red pithos.

Graffiti on upper rim of pithos: five lines parallel to pithos rim, bounded by one line across end at right angle

Before end of the 6th century B. C.

#### 3B-5 Orange pithos<sup>29</sup>

P 2082 CM-EML-3

H. 0.760; D. body 0.542; D. rim 0.480 m.

Fig. 46

Orange pithos with flat bottom, ovoid body, flat everted rim with torus edge. Incised on exterior wall: *benagonos*.

Graffiti on widest part of body, to right of incised word: four compass-drawn circles, 0.054 m. in diameter

Second half of the 6th century B. C.

#### 3B-6 Buff pithos

P 2266 CM-WML-3B

H. 0.850; D. body 0.579; D. base 0.202; D. rim 0.355 m.

Fig. 47

Large buff pithos with flat bottom, ovoid body, flat everted rim with torus outer edge.

Graffiti on upper side of rim: eight short strokes on rim, five longer vertical strokes on wall

6th century B. C.

#### 3B-7 Orange pithos<sup>30</sup>

P 2279 CM-TBT-2

H. 0.855; D. body 0.660 m.

Fig. 47; Pl. 7

Orange pithos with flat bottom, ovoid body, everted and ledged rim with torus outer edge. Incised on widest point of body: *iosais*.

Graffiti on exterior of body, to right of incised word: five and a half compass-drawn circles, each 0.048 m. in diameter; one vertical stroke

6th century B. C.

#### 3B-8 Buff pithos

P 2727 CM-PS-1

H. 0.650; D. body 0.420; D. rim 0.230 m.

Fig. 47; Pl. 7

Large buff pithos with flat base and flat everted rim.

Graffiti on shoulder, to right of triskeles: one and a half compass-drawn circles, each 0.022 m. in diameter; drilled point at right

6th century B. C.

See 1A-14 for graffiti applied before firing.

28. By the third century B. C. the Ionic numeral system was in general use throughout the entire Greek world; see Tod (1950) 138, and de Ste. Croix (1956) 50-61.

29. Young (1969b) 272, no. 41. Brixhe and Lejeune (1984) no. G-116.

30. Young (1969b) 272, no. 42. Brixhe and Lejeune (1984) no. G-117.

**3B-9 Gray pithos**

P 2840 Burial in banks of Beylikköprü road  
H. 0.680; D. shoulder 0.480; D. rim 0.270 m.  
Fig. 47

Coarse gray ware pithos with flat bottom, ovoid body; rim broken.

Graffito on shoulder: vertical line, three compass-drawn circles in horizontal row, each 0.022 m. in diameter  
6th century B. C.

**3B-10 Gray ware jug**

P 3424 CM-M6A, South Cellar  
PH. 0.155; D. neck 0.076; W. handle 0.035 m.  
Fig. 47

Shoulder, neck, rim, and handle of coarse gray ware jug.  
Graffito on shoulder: upper half of compass-drawn circle, 0.045 m. in diameter

6th century—first quarter of the 4th century B. C.  
See 2A-71 for nonalphabetic graffito.

**3B-11 Wall fragment of gray ware vessel**

I 321 CM-M5E, South Cellar  
0.076 x 0.069 m.  
Fig. 47

Fragment of wall of coarse closed gray ware vessel.

Graffito on exterior surface: compass-drawn circle with central dot, 0.033 m. in diameter; vertical line more lightly incised below; from this, line extends diagonally upward to right

6th century—first quarter of the 4th century B. C.

**3B-12 Fragment of gray ware pithos**

P 2622 CM-SET  
PH. 0.135; Est. D. rim 0.355 m.  
Fig. 47

*Circa* one-third of shoulder and thickened, everted rim of gray ware pithos. Ridge on upper part of shoulder.

Graffito on shoulder below ridge: two small compass-drawn circles in a horizontal row, each 0.014 m. in diameter  
6th century—first half of the 4th century B. C.

See 2A-87 for nonalphabetic graffito.

**3B-13 Gray ware handle**

P 2708 CM-PPN  
PL. 0.081; W. 0.039 m.  
Fig. 47

High swung vertical handle, oval in section, of coarse gray ware jug.

Graffito on upper surface of handle, near join to neck: vertical row of two compass-drawn circles and part of a third, each 0.021 m. in diameter

6th century—first half of the 4th century B. C.

**3B-14 Pithos sherd**

I 631 CM-Building A, room 4  
Max. dim. 0.218 m.  
Fig. 47

Wall sherd from large coarse orange pithos, exterior surface fired mottled red-black.

Graffito on exterior surface: one complete and one partial compass-drawn circle, each 0.031 m. in diameter  
6th century—first half of the 4th century B. C.

**3B-15 Pithos sherd**

I 632 CM-Building A, room 4  
Max. dim. 0.049 m.  
Fig. 47

Wall sherd from coarse orange pithos.

Graffito on exterior surface: parts of two compass-drawn circles, each 0.029 m. in diameter  
6th century—first half of the 4th century B. C.

**3B-16 Pithos sherd**

I 633 CM-Building A, room 4  
Max. dim. 0.130 m.  
Fig. 47

Wall sherd from large coarse gray ware pithos.

Graffito on exterior surface: two compass-drawn circles with central dots, each 0.028 m. in diameter; vertical line extends down from one circle

6th century—first half of the 4th century B. C.

**3B-17 Pithos sherd**

I 634 CM-Building A, room 4  
Max. dim. 0.181 m.  
Fig. 48

Wall sherd from large coarse orange pithos.

Graffito on exterior surface: two complete compass-drawn circles and parts of three others, each 0.041 m. in diameter; below this, horizontal line, and to the right, two deep gouges in clay, as if made by the point of a drill

6th century—first half of the 4th century B. C.

**3B-18 Gray ware jug**

P 2847 CM-M4-C  
Est. D. body 0.280; PH. 0.170; D. mouth 0.100 m.  
Fig. 48

Rim, vertical roll handle, and section of body of large gray ware trefoil jug. Round body, trefoil mouth, grooves in shoulder along handle attachment.

Graffito on shoulder, quarter turn to right of handle zone: two concentric compass-drawn circles, larger is 0.040 m. in diameter, surrounded by irregular rectangular lines; traces of letter forms to right

6th century—first half of the 4th century B. C.

**3B-19 Pithos fragment**

P 2476 CM-W1S  
0.083 x 0.074 m.  
Fig. 48

Wall fragment of orange pithos.

Graffito on exterior surface: one compass-drawn circle, 0.036 in diameter, and part of another  
6th century—4th century B. C.

**3B-20 Rim of red pithos**

P 2806 CM-north railroad cut, early cellar south of Archaic building  
Max. dim. 0.190; Est. D. rim 0.30 m.  
Fig. 48

Flat everted rim with thickened outer edge of large red pithos.

Graffito on outer edge of rim: six vertical strokes  
6th century—4th century B. C.

**3B-21 Pithos sherd**

I 168 CM-NCTA-10  
0.049 x 0.048 m.  
Fig. 48

Wall sherd of coarse orange pithos.

Graffito on exterior surface: arc of compass-drawn circle, 0.046 m. in diameter; arrow beside this  
6th century—4th century B. C.

**3B-22 Pithos sherd**

I 331 CM-TB7-F  
0.160 x 0.150 m.  
Fig. 48

Wall fragment of large thick-walled red pithos, burned.

Graffito on exterior surface: three whole circles and part of another, all carelessly drawn with a compass, each approximately 0.040 m. in diameter  
6th century—4th century B. C.

**3B-23 Pithos sherd**

I 362 CM-WS-6, ext. 2

0.156 x 0.110 m.

Fig. 48

Wall sherd of large orange pithos.

Graffiti on exterior surface: five compass-drawn circles, each 0.042 in diameter, and one vertical stroke

6th century-4th century B. C.

**3B-24 Pithos fragment**

I 383 CM-WS-4/5-N

0.144 x 0.135 m.

Fig. 49

Fragment from upper part of wall of large orange pithos, burned.

Graffiti on exterior surface: two compass-drawn circles, 0.042 m. in diameter, and part of another

6th century-4th century B. C.

**3B-25 Pithos fragment**

I 386 CM-WS-5/6-N

0.115 x 0.106 m.

Fig. 49

Wall fragment of coarse red pithos, burned.

Graffiti on exterior surface: two overlapping dotted circles, each 0.033 m. in diameter, and part of a third

6th century-4th century B. C.

**3B-26 Wall sherd of pithos**

I 418 CM-WS-7N

0.102 x 0.094 m.

Fig. 49

Wall sherd of large red pithos.

Graffiti on exterior: compass-drawn circle, 0.043 m. in diameter; extra stroke extending outward, perhaps mistake

6th century-4th century B. C.

**3B-27 Shoulder of buff amphora**

I 571 CM-fallen earth east of Building Q

0.077 x 0.055 m.

Fig. 49

Sherd from shoulder of buff amphora.

Graffiti on exterior surface: trace of diagonal stroke with small hook, X, six vertical strokes

6th century-3rd century B. C.

**3B-28 Pithos rim**

I 581 CM-SE

0.142 x 0.081; Est. D. rim 0.44 m.

Fig. 49

Flat everted rim with torus edge from large orange pithos.

Graffiti on outer edge of rim: three vertical lines

Second half of the 4th century B. C.

**3B-29 Pithos rim**

I 583 CM-SE

0.314 x 0.182; W. rim 0.080 m.

Fig. 49; Pl. 7

Flat everted rim and part of wall of large orange pithos.

Graffiti on upper surface of rim: four small circles, probably incised with drill before firing (point of drill is visible in center); to their left, three strokes at right angle to rim, incised after firing

Second half of the 4th century B. C.

**3B-30 Buff pithos<sup>31</sup>**

P 3541 CM-TB8-C

PH. 0.352; D. rim 0.290 m.

Fig. 50

Upper half of large pinkish buff pithos with ovoid body

and everted rim with torus edge. Graffiti on shoulder: *asauas* and to the right, separated by plaster repair: *alpavoso*.

Graffiti on shoulder to right of second graffiti: three compass-drawn circles in horizontal row, each 0.042 m. in diameter

Second half of the 4th century B. C.

**3B-31 Pithos rim**

I 113 CM-ETC-2

PH. 0.133; Est. D. rim 0.716 m.

Fig. 50; Pl. 7

*Circa* one-third of rim of large coarse gray pithos. Edge of rim everted and squared, upper side flat.

Graffiti on upper side of rim: two vertical strokes incised after firing; to the right, four large and two small irregular circular holes gouged in surface of rim, perhaps imitating circular capacity marks

Second half of the 4th-first half of the 3rd century B. C.

**3B-32 Sherd of gray ware vessel**

I 496 CM-WCW-7

0.073 x 0.045 m.

Fig. 50

Wall sherd of coarse gray ware closed vessel with metallic finish. Three rays incised before firing extend out in fan pattern.

Graffiti on exterior surface: compass-drawn circle, 0.018 m. in diameter

Second half of the 4th-first half of the 3rd century B. C.

**3B-33 Wide-mouthed gray ware jar**

P 178 CM-South Trench

H. 0.288; D. body 0.321 m.

Fig. 50

Coarse gray ware jar with flat bottom, rounded body, wide mouth with squared everted rim, vertical strap handles.

Graffiti on handle: row of two drilled points; underneath, a row of three smaller drilled points

3rd century B. C.

See **2B-188** for letter graffiti.**3B-34 Buff pithos**

I 117 CM-SET, level 2 house

Est. D. rim 0.400; PH. 0.427 m.

Fig. 50

Two joining fragments preserving part of rim and body of large buff pithos. Flat everted rim diagonally undercut, ovoid body. Ancient mend hole in wall.

Graffiti on wall, on widest part of body: *KAA IA*

Second half of the 3rd-first quarter of the 2nd century B. C.

**3B-35 Buff pithos**

I 9 CM-SET, level 2 house

Max. dim. 0.160 m.

Fig. 50

Sherd from wall of large coarse buff pithos.

Graffiti on exterior surface: *KAA I*---

Second half of the 3rd-first quarter of the 2nd century B. C.

**3B-36 Buff pithos**

I 34 CM-SET, level 2 house

PH. 0.345; D. rim 0.360 m.

Fig. 50

Rim, neck, and upper wall of large buff pithos. Upper surface of rim flat, slopes inward slightly, outer edge

31. Young (1969b) 272, no. 77. Brixhe and Lejeune (1984) no. G-150.

everted. Series of light horizontal striations run in parallel lines along exterior surface of wall.

Graffito on exterior wall: *HM H K[-* and to the right, another graffito: *KΑ C*

Second half of the 3rd–first quarter of the 2nd century B. C.

### 3B–37 Buff pithos

I 35 CM-SET

Est. D. rim 0.41; PH. 0.286 m.

Fig. 50

Section from rim and wall of large buff pithos; flat everted rim diagonally undercut and offset from wall by undercut ledge. Ovoid body.

Graffito on exterior wall: *KAA HK*

Second half of the 3rd–first quarter of the 2nd century B.C.

### 3B–38 Gray ware pithos

I 36 CM-SET

*a* Est. D. rim 0.42; PH. 0.268; *b* Max. dim. 0.125; *c* Max. dim. 0.100 m.

Fig. 51

Three nonjoining fragments of large gray ware pithos. *a* preserves part of wall and rim; *b* and *c* are body sherds from wall. Rim of pithos flat, diagonally undercut to join ovoid body.

Graffiti on exterior surface of each fragment: a) *HM H KK-IKI* b) *AE* c) *K]AA*

Second half of the 3rd–first quarter of the 2nd century B. C.

### 3B–39 Gray ware jug

P 816 CM-NCTA-1

H. 0.185; Max. D. 0.155 m.

Fig. 51

Gray ware jug with flat base, ovoid body, trefoil mouth, vertical strap handle. Complete except for handle and rim.

Graffito around shoulder of vessel, in large visible letters: *AIKOTYΛON*

Second half of the 3rd–first quarter of the 2nd century B. C.

### 3B–40 Gray ware vessel

I 68 M-Bldg. A (Plan 3)

Max. dim. 0.116 x 0.059 m.

Fig. 51

Sherd from wall of closed gray ware vessel, probably small jug. Graffito on exterior wall, in large neatly cut letters: *---]KOTYΛ[---*

Second half of the 3rd–first quarter of the 2nd century B.C.



## Part IV

# Miscellaneous

There is a small group of objects with marks which do not belong to any of the larger classes. Since the meaning and purposes of these marks are quite

varied, it seems best to give a brief comment on each piece individually.

## Catalogue

### Miscellaneous (4-1 to 4-9)

#### 4-1 Stone plaque

ST 67 Tumulus E, pit in bedrock in southwest quadrant  
PH. 0.112; PW. 0.107; Th. 0.019 m.

Fig. 51

Irregular plaque of soft white stone, perhaps gypsum; may be part of flat rectangular slab.

Mark on one broad surface: cross

Before end of the 6th century B. C.

This piece of stone came from a pit in the bedrock under the mantle of Tumulus E. It was one of several objects placed in the pit, all of which were deliberately buried. The mark on it, a cross, is one of the commonest nonalphabetic marks found on pottery (see chart B). It may have been a mason's mark, if the piece had been part of a paving stone, or merely a mark of personal ownership for a stone plaque of unknown use.

#### 4-2 Stone weight

ST 641 CM-WS-5/6-S2

H. 0.078; W. 0.063; Th. 0.045 m.

Fig. 51

Rectangular stone object, possibly weight, with beveled edges.

Mark incised onto one broad face: arrow with horizontal line underneath

Second half of the 4th century B. C.

The stone seems to have been regularly shaped and may be a weight, although its context does not give any further clue to its use. The mark on it is likely to be a mark of personal ownership, for it is similar to one of the marks used as a countermark on silver sigloi circulating in Anatolia.<sup>1</sup>

#### 4-3 Alabaster butt<sup>2</sup>

ST 468 CM-TBT-7A

H. 0.046; D. 0.067 m.

Fig. 51

Cylindrical alabaster butt, upper surface has lathe marks and raised central knob. Lower surface smooth, small depression in center. Circular outer surface roughly hand-worked.

Mark on lower surface: **m**

Second half of the 4th—first half of the 3rd century B. C.

#### 4-4 Alabaster butt<sup>3</sup>

ST 469 CM-TBT-7A

H. 0.029; D. 0.052 m.

Fig. 52

Cylindrical alabaster butt, upper surface shows lathe marks and raised central knob, outer edge and lower surfaces handworked.

Marks on upper and lower surfaces: **te** (ligature)

Second half of the 4th—first half of the 3rd century B. C.

Both of these pieces were found in the same context, and both appear to be butts from the manufacture of alabastra, later reworked into stoppers. Both graffiti consist of letters, that on 4-4 in ligature, and both appear to be marks of personal ownership.<sup>4</sup>

#### 4-5 Fragments of white poros stone

I 58 CM-NCT

*a* 0.161 x 0.097; *b* 0.095 x 0.094; *c* 0.076 x 0.049 m.

Fig. 52

Three nonjoining fragments of soft white poros, upper surface very irregular.

Marks incised onto irregular upper surface: *a* three crosses, diagonal lines within quadrangle of one cross; *b* three crosses, diagonal and vertical lines added within

1. This mark was noted as a countermark by Babelon (1893) pl. 39, no. 13; and Boardman (1970) 24, fig. 4.

2. Zouck (1974) 111, no. 17.

3. Zouck (1974) 126, no. 40.

4. See section 2B, pp. 39–40, on the appearance of ligatures among the letter forms used as owners' marks in the fourth century B. C. The latter part of this century is also the period when lathe-turned alabastra became common, see Zouck (1974) 89, no. K 12.

quadrangle of lower cross; *c* cross, triangle in lower right quadrant

Second half of the 4th—first half of the 3rd century B. C.

These three small stone blocks are of the same type of poros as 4–7, although their surfaces are very badly abraded. The marks appear to have been applied onto the abraded surface. Their function is unknown, but it is interesting to note that similar patterns of criss-cross lines, diagonals, and crosses appear on some of the stamp seals from Gordion (compare SS 119, SS 211, SS 260, Gordion inventory numbers). These stones could have been used as tags indicating personal ownership, or trial work for someone attempting to carve a stamp seal.

#### 4–6 Clay disk

I 55 CM-NCT

D. 0.027 m.

Fig. 52

Round disk cut from wall of coarse buff closed vessel with red wash on exterior.

Mark on exterior: two vertical lines surmounted by irregular horizontal line, two irregular vertical lines to the right  
Second half of the 4th—first half of the 3rd century B. C.  
Mark also listed under 2A–188.

The sherd appears too regular for a random break and may have been specifically cut for use as a gaming piece. The graffito on it is one also used as a mason's mark in Anatolia (see chart B), and such a mark of personal identification would have been equally suitable on a game counter.<sup>5</sup>

#### 4–7 White stone block

I 160 CM-dump; no context date

0.094 x 0.081 x 0.040 m.

Fig. 52

Small rectangular block of white poros stone, one edge beveled.

Graffito on one broad surface of stone: circle with in-

ternal V, two diagonal lines extend from edge of circle in opposite directions

6th century—3rd century B. C.

The original use of this piece, found in the excavation dump, is unknown. The stone is a fine white poros, with a carefully dressed face and one beveled edge, suggesting that it was intended for an architectural structure. The mark on it may be a mason's mark.

#### 4–8 Gaming board

MC 299 CM-Surface

0.282 x 0.150 x 0.050 m.

Fig. 52; Pl. 7

*Circa* half of Roman pan tile, coarse orange-pink clay with pattern.

Graffito on upper surface of tile, incised after tile was broken: gaming board

1st–2nd centuries A. D.

The game is complete and therefore could have been incised onto the tile at any time after its break. The identical game board was incised onto other objects in ancient Gordion,<sup>6</sup> but since the same game is still played in the modern village today, the graffito is not definitely ancient.

#### 4–9 Sherd of green glazed vessel

I 528 Sakarya river banks

Max. dim. 0.069 m.

Fig. 52

Sherd from open vessel, buff fabric with green glazed interior.

Graffito on exterior surface: Byzantine letters---]AAOY (ligature)

9th–12th centuries A. D.

This is the only piece of Byzantine green glazed pottery with a graffito, but other deposits of green glazed pottery have been found at Gordion, indicating the presence of a small medieval settlement there.

5. For a similar piece, also bearing a notation of ownership, in this case a proper name, see Lang (1976) 89, no. K 12.

6. Young (1955) 12, pl. 6, fig. 25, illustrates the identical game board on a block from the foundation of the court in front of the sixth century B. C. city gate.

## Part V

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# Summary

The previous sections have presented the corpus of nonverbal marks by type and have offered some interpretations of the meaning and function of the separate categories of mark. The present discussion does not intend to propose any general conclusions about the nature of these marks, since their purposes were so diverse. It seems useful, however, to review the material in chronological sequence and draw attention to certain general trends exhibited by the different classes of material, trends which may not be obvious from a strictly typological presentation.

The earliest set of marks occurs on pottery of the Hittite Empire period. The vessels, all of locally made fabric, bear marks done both before and after firing, and both types appear to be Hittite hieroglyphic signs or signs that were recognizable identification marks at other Hittite sites. This circumstance, coupled with the frequent occurrence of pottery which closely parallels contemporary wares from Boğazköy and of Hittite seals and sealings at the site,<sup>1</sup> suggests that Gordion was part of the Hittite Empire, and that the same language was spoken in Boğazköy and at Gordion.<sup>2</sup> The language appears to have some official standing, for a Hittite hieroglyph meaning “king” or “royal” was used to mark a series of storage vessels before their firing. The presence of a hieroglyph applied after firing denoting a proper name, surely an owner’s mark, suggests that the language was used by private individuals as well.

Very little is known about Gordion during the centuries following the collapse of the Hittite Empire in Anatolia. No marked vessels are known which can be securely ascribed to this interim period, evidently the time during which the ancestors of the Phrygians established themselves in central Anatolia. A few marked objects, all modest vessels of local manufacture, have been recovered from the level of the city preceding that of the Kimmerian destruction. While their relative chronology is clear, their absolute chronology is uncertain, and so they have merely been assigned a date in the eighth century B. C. Most of them bear marks of personal ownership, including

the simple asterisk, a star, and a picture of a hawk closely resembling depictions of the sacred bird of Kybele, the principal Phrygian deity. Some knowledge of Hittite marks is suggested by the occurrence of the Hittite symbol for “king” as a graffito applied after firing on a Phrygian vessel (2A–3). Also of interest is the earliest example of a mark denoting a numerical record (3B–1).

The level of the ancient city destroyed by the Kimmerians in the first quarter of the seventh century B. C. produced a substantial number of vessels with nonverbal marks. All are on locally made fabrics. They include a pithos rim with capacity marks from Megaron 4 (3B–2) and scattered examples of personal owners’ marks on small bowls from other parts of the Destruction Level city (2A–10, 2A–27). A contemporary vessel, one of the dinoi from Tumulus MM, bears the earliest example of the branch symbol (2A–7). The most frequent instances of nonverbal marks from this period are the examples of laticing on large round bowls, most of which come from the complex of rooms behind the large megara, the Terrace and CC Buildings (2A–17 to 2A–25), the quarter of the city which produced food and clothing for the inhabitants of the megara. These marks probably do not indicate personal ownership, but rather indicate the function of the bowl or the place where it was to be used or stored.

No examples of single letters used as owners’ marks have been found from the Destruction Level city, although the existence of four objects from Tumulus MM and one from the Predestruction Level of the city with alphabetic texts<sup>3</sup> demonstrates that alphabetic writing was known. The absence of single letters among these early seventh century B. C. owners’ marks may be due to chance, for single alphabetic letters do appear among the owners’ marks of the period immediately following the Kimmerian destruction, on a piece from under Tumulus H (2B–1), a mid-seventh century burial, and on one from the fill of K-II, a burial of the late seventh or early sixth century.<sup>4</sup>

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1. Gunter (1982) 267. Güterbock (1980) 51–56.

2. Güterbock (1980) 51, 55 gives two examples of Hittite hieroglyphic inscriptions found in Gordion.

3. Young (1981) 274, fig. 134; Young (1966) pl. 73, fig. 22.

4. Körte (1904) 119, no. 30, fig. 98.

After the reconstruction of the city in the first half of the sixth century B. C. the quantity of marked objects increases substantially. The major part of our material falls in the time period between this reconstruction and the occurrence of a major earthquake in the first half of the fourth century B. C., which evidently destroyed many of the buildings in the Middle Phrygian level. There are a few examples of marks done before firing, and a very large number of owners' marks applied after firing, found in every part of the ancient city and in other areas of Gordion, including some of the burial tumuli. We also find widespread use of the local numerical system, a combination of circles and strokes, which appears on several storage vessels from various parts of the ancient city.

The largest body of material consists of the various forms of owners' marks. Two hundred and twelve examples are known on pieces of the sixth through early fourth centuries B. C., as opposed to only twenty-seven from the eighth and seventh centuries B. C. The Destruction Level city has been extensively investigated, and so it is likely that the observed increase in the number of owners' marks reflects an actual increase in their use. The favored choice of a personal mark was a nonalphabetic symbol, with such symbols forming the majority of the owners' marks from this period. Virtually all of these nonalphabetic marks are found on locally made wares, both fine and coarse wares, including most of the standard shapes in normal household use. Only a few examples have been noted on wares of other Anatolian sites, and none on Greek pottery. Letters of the alphabet used as owners' marks, somewhat less common,<sup>5</sup> are also found predominantly on Phrygian wares, although there are a few examples on Greek wares, including an Attic black glazed kylix found on Küçük Hüyük (2B-3), and a Greek black glazed bowl of the first half of the fourth century B. C. with the earliest example of a distinctly Greek *sigma* and *eta* (2B-61). The remaining category of marks, pictures, is much the smallest, and all examples occur on local wares.

During the sixth through early fourth centuries B. C. both alphabetic and nonalphabetic marks were also used to mark vessels before firing. Of necessity these marks all occur on locally made vessels. Three large storage vessels marked before firing were found in Building A (1A-15, 1A-16, 1A-17), but the locations of the others are as random as those

with owners' marks applied after firing. Most of the vessels with marks applied before firing are storage containers, but since most storage containers found in Gordion bear no marks, it may be that occasionally such containers were made to order and incised before firing with the personal mark of the intended user. Interestingly, the marks applied before firing also exhibit a preference for nonalphabetic symbols (there are six nonalphabetic marks out of eight examples).

The other form of nonverbal mark common during this period is the numbering system, found on several storage vessels, including pithoi and jugs. The type of notation most frequently used was a series of compass-drawn circles with vertical strokes, which appears to record the capacity or volume of the vessels. Such vessels were found in a variety of contexts throughout the city. One concentration of vessels with capacity marks comes from the same room in Building A as contained the vessels marked before firing, suggesting that this room, and perhaps the whole building, was some kind of storage facility. Apart from this one case, however, there is no pattern of distribution among the locations of the vessels with capacity marks, and the presence of a storage vessel outside the city (in the mantle of Tumulus K-II)<sup>6</sup> with the same numbering system implies that this system was in general use at the site.

In surveying the various nonverbal marks used during the sixth through early fourth centuries B. C., one striking factor which appears is a sense of strong conservatism. One indication of this lies in the frequent use of nonalphabetic marks as a form of identification at a time when the alphabet was widely known. In addition, the actual types of the nonalphabetic marks chosen demonstrate strong ties to the Anatolian culture of earlier periods, as well as to contemporary material from other Anatolian sites. A high proportion of these nonalphabetic symbols consists of marks which are very similar to, and in some cases identical to, the marks found on the pottery of the Bronze Age attested at Gordion and, more especially, at Boğazköy.<sup>7</sup> The conservatism present in the choice of marks may reflect, not a direct continuity with Bronze Age Gordion, but an indirect transmission of marks in use during the Bronze and early Iron Ages at a number of different sites in Anatolia, and through media other than pottery. The commentary on the marks in section 2A (see pp. 14-19) presented extensive evidence to show that

5. We must remember, of course, that many of the Phrygian graffiti published by Brixhe and Lejeune (1984) consist of a single proper name or an abbreviation of a name, and these graffiti should also be considered a form of owner's mark.

6. Körte (1904) 122, no. 54, fig. 106.

7. For examples, see pp. 13-14.

the types of nonalphabetic marks at Gordion are not unique to this site, but are also found on a variety of objects from other parts of Anatolia or on objects with Anatolian connections, including masons' marks on stone, seals, coin legends, coin countermarks, and horse brands. This is equally true of the nonalphabetic marks applied before firing, which can also be paralleled by patterns such as the triskeles, found on other Anatolian objects. The preferred form of capacity mark is similar to those used in Urartu, suggesting that here too we are dealing with an Anatolian form of notation. The graffiti in the form of pictures have a more distinctively Phrygian character, found in the representations of birds and other animal forms attested elsewhere on Phrygian artifacts.

The fact that these marks exhibit such a strong correlation with the traditions of other areas in Anatolia is especially noteworthy in view of statements by Greek sources that the Phrygians were not originally an Anatolian people, but an ethnic group who migrated into central Anatolia from Thrace or Macedonia in the early first millennium B. C.<sup>8</sup> These statements are supported by texts in Phrygian, a language which shows a close affinity to the Thracian language, itself close to Greek.<sup>9</sup> The high incidence of nonalphabetic marks with an Anatolian, non-Greek origin, particularly in the middle centuries of the city, suggests that a large portion of the population had stronger ties with the native peoples of Anatolia than with the more recent immigrants from the Balkans, probably a result of the fact that the historical Phrygians were actually a fusion of the remnants of the Bronze Age population and the new migrants from Europe.

Alphabetic writing certainly was widely used in Gordion during the seventh through fourth centuries B. C., and the chief function of alphabetic graffiti, both single letters and groups of two or more letters, appears to be the same as that of the nonalphabetic marks, namely as a mark of personal identification.<sup>10</sup> Since this study comments only on very short alphabetic texts, it does not address questions about the nature of the Phrygian language, but our material does present some interesting suggestions about the origin of certain letter forms in the Phrygian script. Most of the letters of the Phrygian alphabet were derived from Greek, but distinctive epichoric letters occur in some of the earliest texts,

the † in a text from the Tumulus MM<sup>11</sup> and the ♡ from a sixth century tumulus.<sup>12</sup> Since these two letter forms, together with the Υ, were used in several cases as nonalphabetic marks, and are also attested on other objects in Anatolia, including masons' marks and countermarks on coins, this suggests that these forms were actually nonalphabetic marks, perhaps originally not solely of Phrygian origin, and were adopted into the Phrygian alphabet to represent sounds in the Phrygian language for which there was no equivalent in the Greek alphabet. The Hittite vase mark in the form of an arrow, attested on Bronze Age pottery from several sites including Gordion, may have furnished the source of the similarly formed letter of the Phrygian alphabet. One of the objects presented above, a sherd from a Late Bronze Age storage container, provides support for this suggestion, for the vessel bears not only a Bronze Age graffito, a triangle with a short vertical line (1A-4), but also part of an alphabetic graffito in Phrygian script (2B-172), demonstrating that such Bronze Age marks were known to the first millennium population of Gordion.

Another Phrygian letter, the J, or y, may have been adopted directly from the Phoenician script as part of an alphabetic reform in the sixth century,<sup>13</sup> a suggestion which our material supports. Among the vessels of the early sixth century there are several with a singleton y, not seen before this time. One example of a variation of this letter, J (2B-37), is closer to the letter form of the Phoenician script and may represent an early form of this letter in the Phrygian script. In addition, the y is the only distinctively Phrygian letter which does not appear in nonalphabetic patterns.

During the latter part of the fourth century several changes can be observed in our material, reflecting broader changes which were taking place at the site. Among the owners' marks, the proportion of alphabetic to nonalphabetic marks is reversed, as letters of the alphabet become the more frequently used form of mark. Roughly a quarter of these alphabetic marks occur on Greek wares. Identifiable letters of the Ionic alphabet are very frequent, and their placing is equally distributed among Greek and local Phrygian wares, suggesting not only that the local population was adopting Greek script, but also that increasingly large numbers of Greek speakers were living in the

8. Herodotos 7.73. Strabo 7.3.2.

9. Friedrich (1941) 878-889. Crossland (1982) 849.

10. As noted above, this is equally true of the many Phrygian graffiti published by Brixhe and Lejeune (1984). Writing one's name or an abbreviation of one's name was far and away the most common use for the alphabet in Gordion. Of the 178 Phrygian inscriptions

published by Brixhe and Lejeune, only a handful definitely consist of more than a name.

11. Young (1981) 274, fig. 134 A, MM 68.

12. Young (1969b) 270, no. 37.

13. Lejeune (1969a) 41 and Lejeune (1970) 60.

city. A few examples of Phrygian letters on pottery of the latter part of the fourth century demonstrate, however, that the traditional Phrygian script was still known and used, at least for proper names. In addition, we continue to find many instances of nonalphabetic marks, applied both before and after firing, which last until the abandonment of the city. Almost all of these are found on locally manufactured vessels.

The number of vessels marked before firing actually increases during this period, and there are a few examples of potters' marks as well as marks which probably indicate personal ownership. The choice of a mark applied before firing was still likely to come from the repertory of traditional Anatolian symbols, with the triskeles being the most common. One interesting set of marks is the series of triskeles stamps (1B-3, 1B-6 to 1B-11) which appears on several gray ware jugs. While these jugs are clearly of local manufacture, the use of the same type of stamp on a number of similar vessels may result from greater familiarity with stamps applied before firing to Greek amphoras, which were imported into the site in increasing numbers in the fourth and third centuries B. C.

There are also a few examples of capacity marks on large pithoi of the late fourth and early third centuries which use the Phrygian numerical system. This type of mark, however, dies out during the third century B. C., and is replaced by the Ionic numeral system and by units of measurements based on a Greek, probably Pergamene, standard.

During the fifth century B. C. a new type of nonverbal mark appears, a commercial trademark on an imported vessel, and these become more frequent on fourth and third century imports. Greek ceramics had been imported into Gordion more or less steadily from the eighth century B. C., and there is a fairly

large number of examples from the sixth and fifth centuries,<sup>14</sup> including a few with owners' marks. While two examples of trademarks on Greek vessels and one possible example of such a trademark on a West Anatolian vessel of the fifth century are known, it does not seem to have been routine to mark Greek vases for shipment to the interior of Anatolia before the fourth century B. C. From that point trademarks become much more common and include some which appear on more than one vessel, implying that the market for Greek wares had expanded to the point where a regular system of marking vases for export was employed.<sup>15</sup>

In sum, the picture of Gordion formed by these nonverbal marks is one of a conservative society with its strongest ties to its Anatolian past and its Anatolian neighbors. The fourth century B. C. shows an increasing familiarity with alphabetic writing and generally a greater degree of Hellenization. By the third century B. C. both the Ionic alphabet and the Greek language were in standard use, as well as the Ionic numeral system and a series of Greek units of measure. In addition, Greek commercial contacts appear to be increasingly structured. The last traces of the Phrygian script appear on vessels of the late fourth or early third century B. C., and the disappearance of the Phrygian script ties in with that of the Phrygian language, which seems to have been entirely superseded by Greek during the third century. The end of both Phrygian script and language at Gordion may be connected in part with the early third century B. C. disturbances resulting from the incursion of the Galatians. There were, however, remnants of the Anatolian strain which survived, for we continue to see a small but noticeable number of nonalphabetic marks from this later period with the traditional Anatolian signs and pictures.

14. On imported Greek pottery in Gordion, see DeVries (1980b) 33 n. 4; DeVries (1983) 232; Sams (1979) 6-16.

15. See the remarks of Johnston (1979) 51, on vases with trademarks found in Asia Minor.

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# Index of Proveniences

Burial in banks of Beylikköprü road	<b>3B-9</b>	CM-Clay Cut Ext. 5	<b>2A-179</b>
CM-Building A	<b>2B-60</b> <b>2B-177</b> <b>3B-40</b> <b>1A-21</b> <b>1A-22</b>	CM-Deep Cut 2	<b>2A-175</b>
CM-Building A, room 4	<b>1A-15</b> <b>1A-16</b> <b>1A-17</b> <b>3B-14</b> <b>3B-15</b> <b>3B-16</b> <b>3B-17</b>	CM-EML-2E	<b>2A-123</b> <b>2A-181</b> <b>2A-196</b> <b>2A-219</b> <b>2A-221</b> <b>2B-134</b>
CM-Building D, fill of drain	<b>2A-47</b>	CM-EML-2W	<b>2A-148</b>
CM-CC-1955	<b>2B-87</b>	CM-EML-3	<b>3B-5</b>
CM-CC-3	<b>2A-27</b>	CM-EML-3E	<b>2A-197</b> <b>2B-111</b> <b>2B-135</b>
CM-CC3-A	<b>1B-4</b> <b>2B-71</b>	CM-EML-3W	<b>2A-124</b>
CM-CC3-B	<b>1B-9</b> <b>2A-174</b> <b>2B-68</b>	CM-EML-4E	<b>2A-198</b>
CM-CC3-C	<b>2B-11</b> <b>2B-12</b> <b>2B-39</b>	CM-ET	<b>2B-76</b> <b>2B-84</b> <b>2B-112</b> <b>2B-190</b>
CM-CC3-E	<b>2A-34</b> <b>2B-7</b> <b>2B-8</b> <b>2B-9</b> <b>2B-10</b>	CM-ET, section 4-b, c	<b>2B-75</b>
CM-CC3-G	<b>2B-13</b>	CM-ET, section 4-c	<b>2B-109</b>
CM-CW-1	<b>2A-119</b> <b>2A-139</b> <b>2A-170</b> <b>2A-176</b> <b>2B-56</b>	CM-ETO-11	<b>1B-10</b>
CM-City Wall trench	<b>2A-210</b> <b>2A-211</b> <b>2A-212</b> <b>2A-213</b>	CM-ETC	<b>1A-3</b>
CM-Clay Cut	<b>2B-189</b> <b>2B-91</b> <b>2B-116</b>	CM-ETC	<b>2A-90</b>
		CM-ETC-2	<b>1A-5</b> <b>2A-93</b> <b>2A-189</b> <b>2B-54</b> <b>2B-174</b> <b>3B-31</b>
		CM-ETC-3	<b>2A-164</b> <b>2B-191</b>
		CM-ETN	<b>2B-149</b>
		CM-ETO-1	<b>2B-63</b> <b>2B-101</b> <b>2B-114</b> <b>2B-117</b>
		CM-ETO-10	<b>1A-7</b> <b>2A-216</b> <b>3A-9</b>

CM-ETO-11	2A-217 2B-125 2B-182		2B-25 2B-26 3B-11
CM-ETO-12	2B-183 2B-184 2C-5	CM-M5-F CM-M5-F, clay between North and South Cellars	1A-18 2A-65 2A-69 2A-80 2B-24
CM-ETO-13	2A-86		2B-24
CM-ETO-2	3A-5		
CM-ETO-3	2B-193	CM-M5-G	2A-128
CM-ETO-8	2B-123	CM-M5-J	2A-96
CM-ETV-2	1B-3 2A-144 2B-40 2B-100 2B-120 2B-126 3A-2	CM-M5-J, M6-E, South Cellar CM-M5-K CM-M6-A CM-M6-A,	2B-23 2B-80 2B-66 3A-23 2A-53 2A-54 2A-56 2A-83
CM-East of ETN-2, railroad cut	2A-110 2A-215 2B-124	CM-M6-A, South Cellar	2A-60 2A-71
CM-Gate-S	2A-35 2A-36 2A-37 2B-15	CM-M6A, CM-M6-B	3B-10 2B-46 2B-79
CM-M4-C	2A-103 2A-104 2A-105 3B-18	CM-M6-C	2A-153 2A-166 2A-202
CM-M4-S2	2A-187	CM-M6-C, South Cellar	2A-52 2A-55 2A-57 2A-58 2A-59 2A-70 2A-72 2A-73 2A-84 2B-20 2B-22 2B-27
CM-M5-E	3A-11		
CM-M5-E, South Cellar	2A-51 2A-61 2A-62 2A-63 2A-64 2A-66 2A-67 2A-68 2A-74 2A-75 2A-76 2A-77 2A-78 2A-79 2A-81 2A-82 2B-19 2B-21	CM-M6-C, mixed clay CM-M6-F CM-M7-F, WS-10 CM-M7-F (building in WS-10) CM-M7-H CM-MN Ext. 3	2A-97 2A-143 2A-100 2B-35 2A-207 2A-180 2A-229



CM-MN-2	1A-9 2A-195 2A-228 2B-133 2B-161 3A-13	CM-NCTA-4 CM-NCTA-6 CM-NCTA-7	2A-122 2B-45 1A-8 1B-13 2B-65 3A-16
CM-MN-2, WML-2	2B-132		
CM-MN-Ext. 3	1B-11	CM-NCTS	2A-224 2A-226
CM-MW	2B-18	CM-NE	1A-1
CM-MW-2	2A-111 2A-160 2B-44 2B-119 2C-10	CM-NE corner	2A-140 2A-151 2A-231 2B-164 2B-168 2B-173 2B-200
CM-Meg. 10	2A-3		
CM-Meg. 12	2A-2	CM-NE-1	2A-172
CM-Meg. 2, room 3	2A-12	CM-NE-1, railroad spur	2B-136
CM-Meg. 3	2A-9 2A-11	CM-North Building	2B-186
CM-Meg. 4	2A-13 3B-2	CM-OQ-2/3	2A-165
CM-Meg. 4 terrace	2A-10	CM-PBP-N1	2A-106 2B-62
CM-Meg. 9	2A-4	CM-PBP-W2	2B-61
CM-NCT	1A-4 1A-6 1A-10 2A-188 2A-225 2B-70 2B-73 2B-172 2B-178 2B-196 4-5 4-6	CM-PBX-2 CM-PBX-2, stone robber's trench CM-PBX-5	1A-24 1A-23 2A-158 2B-115 3A-15
CM-NCTA-1	2A-227 3B-39	CM-PBX-E	2B-158
CM-NCTA-10	2A-147 2A-177 2B-83 3B-21	CM-PP CM-PPB CM-PPB, SE2	3A-10 1B-7 2B-43 2B-51 2B-78
CM-NCTA-11	2A-112 2A-178 2B-128 2B-176 2C-13	CM-PPB, SE3 CM-PPB, SE5 CM-PPB-3 CM-PPB-7	2B-37 2B-41 2B-42 2B-104 2A-191 2C-11 2B-98 2B-99

	<b>2B-152</b>		<b>2B-129</b>
	<b>2C-3</b>		<b>2B-130</b>
	<b>2A-120</b>		<b>2B-131</b>
CM-PPB-SE2	<b>2A-138</b>	CM-Q-2	<b>2A-186</b>
	<b>2B-159</b>		<b>2B-118</b>
	<b>2B-160</b>		<b>2B-185</b>
CM-PPB-SE4	<b>2B-163</b>	CM-SE	<b>3B-28</b>
	<b>2B-165</b>		<b>3B-29</b>
	<b>2B-166</b>	CM-SENW	<b>2B-67</b>
CM-PPB-SE5	<b>3A-7</b>		<b>3A-12</b>
CM-PPN	<b>3B-13</b>	CM-SET	<b>2A-87</b>
CM-PPPN	<b>1A-20</b>		<b>2B-93</b>
	<b>2B-38</b>		<b>2B-199</b>
			<b>3B-12</b>
CM-PPPS	<b>2A-142</b>	CM-SET, layer 2 house	<b>1B-15</b>
	<b>2B-74</b>		<b>1B-16</b>
	<b>2B-127</b>		<b>3B-34</b>
CM-PS-1	<b>1A-14</b>		<b>3B-35</b>
	<b>2A-141</b>		<b>3B-36</b>
	<b>2A-199</b>		<b>3B-37</b>
	<b>3B-8</b>		<b>3B-38</b>
CM-PS-2	<b>2A-127</b>	CM-SET-N	<b>2B-88</b>
CM-PeW-1	<b>2B-143</b>		<b>2B-89</b>
	<b>2B-145</b>		<b>2B-108</b>
			<b>2B-194</b>
CM-PeW-2	<b>2B-95</b>		<b>3A-4</b>
	<b>2B-146</b>	CM-SET-NW	<b>2B-92</b>
	<b>2B-147</b>		<b>2B-113</b>
CM-PeW-4	<b>2B-150</b>	CM-SET-NW, Roger	<b>2B-179</b>
CM-PhW-1	<b>2B-144</b>		<b>2B-180</b>
CM-PhW-4	<b>2A-208</b>		<b>2B-201</b>
CM-PhWN	<b>2B-162</b>	CM-SET-W	<b>2B-55</b>
CM-PhWN-2	<b>2B-36</b>		<b>2B-94</b>
			<b>2B-174</b>
CM-PhWN-4	<b>2A-107</b>		<b>3A-6</b>
	<b>2A-145</b>	CM-SET-W, surface	<b>2B-192</b>
CM-PhWN-6	<b>2A-163</b>		<b>2B-202</b>
	<b>2A-209</b>		<b>2B-203</b>
CM-PhWN-7	<b>2A-161</b>	CM-South Trench	<b>2A-102</b>
	<b>2B-171</b>		<b>2A-223</b>
			<b>2B-28</b>
CM-, Phrygian court south of Meg. 9	<b>3B-1</b>		<b>2B-29</b>
CM-Q	<b>2A-214</b>		<b>2B-30</b>
	<b>2B-107</b>		<b>2B-31</b>
			<b>2B-32</b>
CM-Q-1	<b>1B-12</b>		<b>2B-33</b>
	<b>2A-193</b>		<b>2B-57</b>
	<b>2A-194</b>		<b>2B-58</b>
	<b>2A-218</b>		<b>2B-97</b>

	<b>2B-181</b>	CM-TB8-AB	<b>2A-183</b>
	<b>2B-187</b>		
	<b>2B-188</b>	CM-TB8-C	<b>2A-205</b>
	<b>3B-33</b>		<b>2B-121</b>
	<b>1B-14</b>		<b>3B-30</b>
CM-TB 3	<b>2A-15</b>	CM-TB8-G	<b>2B-86</b>
	<b>2A-17</b>	CM-TB8-S	<b>2B-157</b>
	<b>2A-18</b>		
	<b>2A-19</b>	CM-TB8-S1	<b>2B-148</b>
	<b>2A-20</b>		
	<b>2A-21</b>	CM-TB8-S2	<b>2A-98</b>
			<b>2B-122</b>
CM-TB 4	<b>2A-14</b>		<b>2B-198</b>
			<b>3A-1</b>
CM-TB 5	<b>2A-16</b>		
CM-TB 6	<b>2A-22</b>	CM-TB8-S3	<b>2A-162</b>
	<b>2A-23</b>		<b>2B-81</b>
			<b>2B-106</b>
CM-TB 7	<b>2A-24</b>	CM-TBE2-S1B	<b>3A-3</b>
	<b>2A-25</b>		
CM-TB 8	<b>2A-26</b>	CM-TBT-2	<b>3B-7</b>
CM-TB7-A	<b>2A-94</b>	CM-TBT-6A	<b>2A-95</b>
	<b>2A-108</b>	CM-TBT-7A	<b>4-3</b>
	<b>2A-156</b>		<b>4-4</b>
	<b>2A-157</b>	CM-TBT-7B	<b>2A-89</b>
	<b>2A-173</b>		
	<b>2A-190</b>	CM-TBT-7B, 8B	<b>2B-34</b>
	<b>2A-222</b>		
	<b>2B-137</b>	CM-TBT-CC2	<b>2A-230</b>
	<b>2C-9</b>	CM-TBT-CC3	<b>2C-6</b>
	<b>3A-21</b>	CM-TBW-3	<b>2A-91</b>
CM-TB7-A1	<b>2B-17</b>	CM-TBW-4	<b>2B-197</b>
CM-TB7-A4	<b>2B-52</b>	CM-TBW-5	<b>2B-82</b>
CM-TB7-A5	<b>2B-53</b>	CM-T-SW	<b>2A-184</b>
CM-TB7-B	<b>1B-1</b>		<b>3A-18</b>
	<b>1B-2</b>		<b>3A-19</b>
	<b>2A-48</b>		<b>3A-20</b>
	<b>2A-50</b>	CM-W1S	<b>2A-117</b>
	<b>2A-88</b>		<b>2A-118</b>
	<b>2A-159</b>		<b>3B-19</b>
CM-TB7-D	<b>2A-155</b>	CM-W2S	<b>2A-116</b>
	<b>2B-110</b>		
	<b>2B-195</b>	CM-W2S4	<b>2A-85</b>
CM-TB7-E	<b>2A-149</b>	CM-WCW-13	<b>1B-8</b>
CM-TB7-F	<b>2A-109</b>		<b>2B-103</b>
	<b>2A-200</b>		<b>2B-169</b>
	<b>2A-201</b>		<b>2B-170</b>
	<b>2A-220</b>	CM-WCW-3	<b>2B-153</b>
	<b>3A-22</b>	CM-WCW-4	<b>2A-192</b>
	<b>3B-22</b>		<b>2B-72</b>

	<b>2B-154</b>		<b>2A-206</b>
	<b>2B-155</b>		<b>2B-141</b>
CM-WCW-6	<b>2B-156</b>	CM-WS-6, ext. 2	<b>3B-23</b>
CM-WCW-6E	<b>2A-101</b>	CM-WS-7	<b>2A-204</b>
CM-WCW-7	<b>3B-32</b>		<b>2B-138</b>
CM-WCW-8	<b>3A-24</b>	CM-WS-7N	<b>2A-113</b>
CM-WCW-9	<b>2B-167</b>		<b>2A-133</b>
CM-WG-1	<b>2A-152</b>		<b>2A-134</b>
CM-WIS	<b>2A-126</b>	CM-WS-8	<b>2C-8</b>
CM-WML-1E	<b>2A-115</b>	CM-WS-9	<b>3B-26</b>
	<b>2A-182</b>		<b>2B-140</b>
CM-WML-2E	<b>1A-19</b>		<b>2A-167</b>
	<b>2A-171</b>	CM-WS-9N	<b>2A-168</b>
	<b>2B-96</b>		<b>2C-4</b>
CM-WML-3B	<b>2C-12</b>		<b>1B-6</b>
	<b>3B-6</b>		<b>2A-99</b>
CM-WML-4N	<b>2B-16</b>	CM-dump	<b>2A-150</b>
CM-WML-4S	<b>2A-125</b>	CM-exact provenience unknown	<b>2B-77</b>
	<b>2B-47</b>	CM-fallen earth at Building Q	<b>4-7</b>
CM-WS-10	<b>2A-135</b>		<b>3A-17</b>
	<b>2A-185</b>	CM-fallen earth by Early Phrygian Building	<b>2A-154</b>
CM-WS-10, M7-H	<b>2A-92</b>		<b>2B-59</b>
CM-WS-10, M7-H, RR cut	<b>2B-90</b>	CM-fallen earth east of Building Q	<b>3A-14</b>
CM-WS-4/5-N	<b>2B-142</b>	CM-fallen earth from scarp north of Meg. 3	<b>3B-27</b>
	<b>3B-24</b>		<b>1B-5</b>
CM-WS-4/5-S2/3	<b>2A-136</b>	CM-fallen earth west of Meg. 12	<b>2B-102</b>
CM-WS-4/5-S3	<b>2A-137</b>	CM-fill between Meg. 9 and 10	<b>2A-5</b>
	<b>2A-169</b>		<b>2A-6</b>
CM-WS-5/6	<b>2B-139</b>	CM-fill between PPB and city wall	<b>2A-121</b>
CM-WS-5/6-N	<b>2A-114</b>	CM-north railroad cut, early cellar south of Archaic building	<b>3B-20</b>
	<b>2A-129</b>		
	<b>2A-130</b>	CM-railroad dyke	<b>2A-33</b>
	<b>2A-132</b>	CM-under anteroom floor of TB 7	<b>2C-2</b>
	<b>2C-7</b>	CM-under floor of TB 7	<b>2A-1</b>
	<b>3B-25</b>		
CM-WS-5/6-S	<b>2A-131</b>	Common cemetery under Tumuli H and I	<b>2A-46</b>
	<b>2B-48</b>		<b>2C-1</b>
	<b>2B-49</b>		
	<b>2B-50</b>	KH-room 1	<b>2A-29</b>
CM-WS-5/6-S2	<b>4-2</b>		<b>2A-30</b>
CM-WS-5/6-S3	<b>2B-151</b>	KH-balcony	<b>2A-31</b>
CM-WS-6	<b>2A-203</b>	KH-burnt fill	<b>2A-32</b>
			<b>2B-3</b>

KH-clay fill	<b>2B-4</b>	Tumulus E	<b>2A-43</b>
KH-field trench	<b>1A-2</b>		<b>2A-44</b>
			<b>2A-45</b>
KH-in fill near stone tower	<b>2B-5</b>	Tumulus E, house debris under mantle	<b>3B-3</b>
KH-room 1	<b>2B-6</b>	Tumulus E, pit in bedrock in southwest quadrant	<b>4-1</b>
Location and context date unknown	<b>2A-146</b>		
	<b>2B-64</b>	Tumulus E, tumulus mantle	<b>2A-39</b>
	<b>2B-69</b>		<b>2A-40</b>
	<b>2B-85</b>		<b>2A-41</b>
	<b>3A-8</b>		<b>2A-42</b>
Museum Site, surface	<b>2A-49</b>		<b>3B-4</b>
			<b>2A-38</b>
Sakarya river banks	<b>4-9</b>	Tumulus H, tumulus mantle	<b>2B-1</b>
Surface	<b>4-8</b>	Tumulus M, cremation	<b>2B-2</b>
Tumulus C	<b>2B-14</b>	Tumulus MM, inside cauldron MM 1	<b>2A-8</b>
Tumulus D, house debris under mantle	<b>1A-12</b>	Tumulus MM, inside cauldron MM 3	<b>2A-7</b>
	<b>1A-13</b>		
	<b>2A-28</b>	Tumulus P	<b>1A-11</b>

# Concordance: Inventory Number/Catalogue Number

<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>
I 5	2A-43	I 90	2B-114	I 175	2A-178
I 9	3B-35	I 91	2B-117	I 178	2B-129
I 13	2B-73	I 92	3A-5	I 179	2B-130
I 25	2B-58	I 94	2A-36	I 180	2A-193
I 27	2B-181	I 95	2A-37	I 181	2B-131
I 28	2B-97	I 96	2B-15	I 182	2A-218
I 33	2A-102	I 97	2A-35	I 183	2A-194
I 34	3B-36	I 100	2B-126	I 185	2A-180
I 35	3B-37	I 101	2B-100	I 186	2A-229
I 36	3B-38	I 104	3A-2	I 188	2B-185
I 37	2A-39	I 105	2B-120	I 191	2B-161
I 38	2A-38	I 106	2B-193	I 192	2A-195
I 39	2B-1	I 109	2A-144	I 193 + P 2088	2B-132
I 42	2B-194	I 113	3B-31	I 194	1A-9
I 43	2B-108	I 117	3B-34	I 195	2B-133
I 46	2B-196	I 123	2A-189	I 197	3A-13
I 49	2B-109	I 125	1A-5	I 199	2B-134
I 50	2B-112	I 129	2B-123	I 200	2A-196
I 51	2B-75	I 132	1A-22	I 202	2A-123
I 52	2B-84	I 134	2A-122	I 203	2A-219
I 53	2B-76	I 137	2B-189	I 204	2A-221
I 55	2A-188	I 138	2B-124	I 205	2A-148
I 55	4-6	I 139	2A-215	I 206	2B-5
I 58	4-5	I 142	2B-191	I 208	2A-171
I 61	2B-92	I 143	3A-9	I 209	2A-182
I 63	2B-149	I 144	1A-7	I 213	2A-181
I 67	2A-31	I 145	2A-216	I 215	2A-197
I 68	3B-40	I 148	2A-179	I 216	2B-111
I 71	2B-202	I 151	2A-217	I 217	2B-135
I 72	2B-203	I 153	2B-125	I 219	2A-198
I 73	2B-60	I 156	2B-65	I 220	1A-19
I 78	2A-151	I 157	3A-16	I 221	2B-96
I 79	2B-164	I 158	1A-8	I 223	2A-124
I 80	2B-168	I 160	4-7	I 231	2B-47
I 81	2B-200	I 165	2A-147	I 232	2A-125
I 82	2B-173	I 166	2B-176	I 233	2C-12
I 83	2B-201	I 168	3B-21	I 241	2A-126
I 84	2A-46	I 169	2C-13	I 244	2B-136
I 85	2A-231	I 171	2B-83	I 245	1A-2
I 87	2A-30	I 172	2B-45	I 248	2A-199
I 88	2B-101	I 173	2B-128	I 251	2B-34
I 89	2B-63	I 174	2A-112	I 252	2A-127

<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>
I 255	2A-13	I 328	2A-201	I 413	2C-8
I 259	2B-127	I 329	3A-22	I 414	2A-113
I 260	3B-2	I 330	2A-61	I 415	2A-133
I 263	2B-74	I 331	3B-22	I 417	2B-148
I 266	3A-18	I 334	2A-109	I 418	3B-26
I 267	3A-19	I 335	2A-10	I 419	2A-134
I 268	3A-20	I 338	3A-23	I 421	2A-207
I 270	2B-38	I 339	2A-166	I 422	2A-135
I 272	2B-137	I 340	2A-202	I 423	2A-136
I 273	2A-222	I 341	2B-46	I 424	2A-169
I 276	3A-21	I 342	2A-60	I 425	2A-137
I 278	1A-18	I 343	2B-107	I 427	2B-77
I 279	2A-108	I 348	2A-58	I 428	2A-185
I 280	2A-173	I 349	2A-59	I 430	2B-35
I 281	2A-128	I 349	2B-22	I 431	2B-106
I 284	3A-11	I 350	2A-57	I 432	2A-150
I 285	2A-159	I 351	2A-84	I 433	2A-98
I 286	2A-165	I 352	2A-97	I 434	2B-150
I 289	2A-50	I 353	2B-20	I 435	2A-99
I 291	2B-110	I 354	2A-153	I 436	2A-162
I 292	2B-195	I 357	2A-167	I 437	2B-151
I 294	1B-1	I 358	2A-203	I 438	2B-50
I 295	1B-2	I 359	2B-138	I 440	2A-100
I 297	2B-26	I 360	2A-204	I 446	1A-24
I 298	2A-68	I 362	3B-23	I 453	2B-62
I 299	2A-82	I 365	2B-139	I 454	2B-115
I 300	2A-67	I 366	2A-205	I 457	2B-152
I 301 + I 315	2A-66	I 367	2B-140	I 458	3A-15
I 301 + I 315	2B-25	I 368	2A-168	I 459	2B-105
I 303	2A-81	I 369	2A-206	I 460	2B-153
I 305	2A-94	I 369	2B-141	I 461	2B-197
I 306	2A-48	I 370	2C-4	I 464	2B-154
I 307	2A-69	I 371	2B-142	I 465	2B-155
I 308	2A-80	I 380	2B-143	I 467	2B-72
I 308	2B-24	I 381	2B-144	I 468	2C-3
I 309	2A-65	I 382	2B-145	I 471	2B-156
I 310	2A-149	I 383	3B-24	I 476	2B-157
I 311	2A-64	I 386	3B-25	I 477	2B-61
I 312	2A-78	I 389	2B-48	I 478	2B-158
I 313	2A-79	I 391	2B-80	I 479	2A-101
I 314	2A-63	I 393	2A-114	I 480	2B-159
I 317	2A-62	I 393	2C-7	I 481	2B-160
I 319	2B-21	I 394	2A-129	I 482	2B-198
I 320	2A-76	I 395	2A-130	I 483	3A-1
I 321	3B-11	I 396	2A-131	I 485	2B-78
I 322	2A-77	I 397	2B-146	I 486	2B-162
I 323	2A-220	I 398	2B-147	I 487	2B-51
I 324	2A-75	I 399	2B-95	I 489	2A-138
I 325	2A-74	I 400	2A-132	I 491	2B-199
I 326	2A-96	I 401	2B-49	I 492	2B-81
I 327	2A-200	I 412	2B-86	I 493	3A-24

<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>
I 494	2B-89	I 576	2B-102	I 646	2A-6
I 495	2B-36	I 577	2A-154	I 647	2A-5
I 496	3B-32	I 578	3A-14	I 648	2A-12
I 498	2B-17	I 580	1B-5	I 649	2A-3
I 499	2B-64	I 581	3B-28	I 650	2A-2
I 502	2B-37	I 583	3B-29	L 222	2B-177
I 503	2B-163	I 585	1B-4	MC 299	4-8
I 504	2B-165	I 587	2A-139	MU 54-40-32	2B-14
I 505	2B-166	I 587	2B-56	P 103	2B-187
I 506	2B-104	I 588	1B-3	P 116	2B-57
I 507	3A-7	I 589	2B-40	P 142	2A-223
I 509	2B-167	I 590	2B-183	P 178	2B-188
I 512	2B-52	I 591	1A-3	P 178	3B-33
I 513	2B-94	I 592	2B-184	P 189	1A-13
I 514	2B-93	I 598	1B-14	P 190	1A-12
I 516	2A-208	I 599	2B-29	P 191	2A-28
I 517	2B-53	I 600	2B-30	P 211	2B-28
I 523	2B-68	I 601	2B-31	P 237	2B-33
I 524	2B-103	I 602	2B-32	P 384	2B-192
I 525	2B-169	I 605	2A-210	P 403	2B-178
I 527	2B-39	I 606	2A-211	P 411	2B-190
I 528	4-9	I 607	2A-212	P 420	3B-3
I 529	2B-170	I 608	2A-213	P 421a,b + P 4762	3A-3
I 531	2B-12	I 609	2A-41	P 440	2A-224
I 534	2A-209	I 610	2A-44	P 461	2A-225
I 535	2A-163	I 611	3B-4	P 531	2A-32
I 537	2B-9	I 612	2A-45	P 532	2B-6
I 538	2B-10	I 614	2A-42	P 558	2A-226
I 541	2B-11	I 615	2A-40	P 655	2A-140
I 542	2B-171	I 616	2A-55	P 706	2B-179
I 548	2B-13	I 617	2A-52	P 736	2B-2
I 550	2B-69	I 618	2A-56	P 781	1A-16
I 552	2B-4	I 619	2A-53	P 794	2B-180
I 553	2B-3	I 620	2A-54	P 801	2A-29
I 557	2B-54	I 621	2A-83	P 807d	1A-17
I 560	1A-4	I 623	1A-10	P 807f	1A-15
I 560	2B-172	I 624	1A-6	P 815	2A-227
I 561	2B-70	I 625	2A-175	P 816	3B-39
I 562	2B-113	I 628	1A-1	P 1107	2A-164
I 563	2B-23	I 631	3B-14	P 1143	2A-110
I 565	2B-174	I 632	3B-15	P 1198	2B-182
I 566	2B-175	I 633	3B-16	P 1248	2A-86
I 567	2B-67	I 634	3B-17	P 1392	2C-5
I 568	3A-12	I 635	2A-93	P 1478	2A-177
I 569	3A-8	I 636	2A-90	P 1728	2B-18
I 570	2B-87	I 637	2A-92	P 1734	2A-186
I 571	3B-27	I 638	2B-91	P 1734	2B-118
I 572	2B-88	I 642	2B-90	P 1775	2C-10
I 573	3A-6	I 643	2A-95	P 1811	2B-119
I 574	2B-55	I 644	1A-21	P 1812	2A-160
I 575b	2B-59	I 645	2B-116	P 1822	2A-8



<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>	<i>Inv.</i> <i>No.</i>	<i>Cat.</i> <i>No.</i>
P 1830	2A-7	P 2891	2A-230	P 3926	2B-99
P 1886	2A-111	P 2938	1A-20	P 3968	2B-82
P 1886	2B-44	P 2953	2A-142	P 4027	2A-120
P 1972	2A-115	P 2957	2C-6	P 4027	2B-43
P 1991	2A-228	P 3024	2A-184	P 4097	1B-15
P 2021	2A-14	P 3067	2A-15	P 4098	1B-16
P 2082	3B-5	P 3068	2A-22	P 4171	2B-79
P 2266	3B-6	P 3069	2A-23	P 4181	2A-145
P 2279	3B-7	P 3131	2A-33	P 4243	1A-23
P 2340	2A-16	P 3155	2A-190	P 4250	2B-85
P 2380	2A-17	P 3172	2C-9	P 4260	2B-41
P 2399	2A-116	P 3173	2A-156	P 4261	2B-42
P 2404	2A-47	P 3194	2A-88	P 4307	2A-107
P 2422	2A-18	P 3204	2A-155	P 4356	2A-1
P 2423	2A-19	P 3207	2A-157	P 4361	2C-2
P 2428	2A-117	P 3215	2A-51	P 4366	2B-71
P 2448	2A-20	P 3215	2B-19	P 4386	2A-174
P 2453	2A-118	P 3304	2A-24	P 4482 + P 4495	2B-7
P 2468	3A-10	P 3305	2A-25	P 4492	2A-34
P 2476	3B-19	P 3338	2B-66	P 4494	2B-8
P 2499	2A-176	P 3374	2A-4	P 4658	2A-27
P 2520	2A-170	P 3379	2A-70	P 4666	2C-1
P 2541	2A-21	P 3388	2B-186	P 4683	2A-146
P 2549	2A-119	P 3400	2A-73	P 4713	2A-161
P 2550	2A-172	P 3400	2B-27	P 4778	1A-11
P 2622	2A-87	P 3417	2A-214	P 4803	2A-121
P 2622	3B-12	P 3424	2A-71	P 4863	3A-4
P 2647	2A-141	P 3424	3B-10	P 5127	3A-17
P 2667	2A-9	P 3427	2A-72	P 5541	3B-1
P 2701	2A-11	P 3450	2A-143	P 5624	2B-16
P 2708	3B-13	P 3490	2A-183	SS 137	1B-10
P 2715	2A-49	P 3540	2B-121	SS 140	1B-13
P 2724	2A-85	P 3541	3B-30	SS 151	1B-12
P 2727	1A-14	P 3621	2B-122	SS 152	1B-11
P 2727	3B-8	P 3768	2A-106	SS 238	1B-6
P 2772	2A-89	P 3771	2A-191	SS 251	1B-7
P 2806	3B-20	P 3773	2C-11	SS 265	1B-9
P 2836b	2A-103	P 3803	2A-91	SS 276	1B-8
P 2836c	2A-104	P 3804	2A-158	ST 67	4-1
P 2837	2A-105	P 3843	2A-26	ST 468	4-3
P 2840	3B-9	P 3881	2A-152	ST 469	4-4
P 2846	2A-187	P 3898	2A-192	ST 641	4-2
P 2847	3B-18	P 3921	2B-98		



## ÖNSÖZ

Rodney S. Young'ın 1974'teki zamansız ölümü üzerine Gordion'daki kazılar, alanda çalışmalar henüz sürmekteyken, aniden kesintiye uğradı. Gordion ekibi ve Üniversite Müzesi Müdürlüğü bu aşamanın, kazıların gelişmesinin gözden geçirilmesi ve Profesör Young'ın 1950 ve 1973 yılları arasında alanda yaptığı çalışmalarda ortaya çıkan çok miktarda malzemenin resmî bir yayınına başlanması için uygun olacağına karar verdiler. Yazar ilk kez 1979'da Gordion'da çalışmak üzere davet edildi ve sözcük olmayan ("nonverbal") işaretler üzerindeki incelemesine 1981'de başladı. Bundan birkaç yıl önce, İstanbul'daki Fransız Enstitüsü'nden Claude Brixhe ve Michel Lejeune tüm Firik kitabe metinlerinin, Gordion'dakileri de içeren, kapsamlı bir incelemesine başlamışlardı. Fakat bunların haricinde, oyulmuş, boyanmış ve damgalanmış işaretleri olan ve tarihleri Geç Bronz Çağından Helenistik devrine kadar uzanan birçok çeşitli nesne daha vardı.

Bu eser birçok arkadaş ve meslektaşın yardımlarına pekçok şey borçlu. Gordion'daki çalışma, Türkiye Eski Eserler Müdürlüğü'nün ve çalışma sezonlarının devam etmesine önemli katkıda bulunan alandaki temsilcilerinin işbirliği olmadan gerçekleştirilemezdi. Burada özellikle Ankara'daki Anadolu Medeniyetleri Müzesinin birbiri ardından müdürlüğünü yapan Raci Temizir ve Osman Aksoy'a, İnci Bayburtluoğlu'na ve Müze görevlilerine, Ankara'da saklanan Gordion koleksiyonu ile ilgili çalışmalarda değerli yardımları için teşekkür etmek istiyorum. İstanbul Arkeoloji Müzesi'nden Nusin Asgari ve Gülşay Tigrel, Midas şehrinde ve Gordion'daki Korte kazısından çıkan karşılaştırmalı malzemenin incelenmesine yardımcı oldular. Boğazköy'de Peter Neve misafirperverlik gösterdi ve teşvik edici bilgiler sağladı. Ayrıca Crawford H. Greenewalt, Jr., Mabel Lang, Machteld Mellink, Carl Nylander ve Edith Porada'ya verdikleri

bilgiler ve değerli öneriler için teşekkür etmek istiyorum. Claude Brixhe kitabeler ve dilbilim üzerindeki uzmanlığını hiçbir karşılıksız sundu. Davis'te Wilbur Benware, Ann Gunion ve Kevin Roddy önemli yardımlar sağladılar.

En son olarak, Gordion projesindeki meslektaşlarıma minnettarlığımı ifade etmekten özel bir kıvanç duyuyorum. Gordion'daki çalışma her zaman bir takım çabası olmuştur ve bu eserdeki pekçok fikir ve yorum kazı evinin balkonundaki tartışmalarla gelişmiştir. Gunlog Anderson, Ann Gunter, Sebastian Payne, Irene Romano, G. Kenneth Sams, Elizabeth Simpson ve Frederick Winter kendi bilgi ve görüşlerini hiç karşılık beklemeden aktardılar. Ellen Kohler'e, hem Gordion tümülsüleri hakkında verdiği bilgiler, hem de editör ve Gordion arşivcisi olarak sağladığı değerli servisler için iki misli şükran borçluyum. Ayrıca, Gordion projesine gösterdiği özel ilgi için Üniversite Müzesi müdürü Robert H. Dyson, Jr.'a ; çizimlerle ilgili yardımları için Barbara Hayden'e; ve metni hazırlayıp yayınlanmasını sağlayan Karen Brown Yellucci'ye minnettarım. Keith DeVries'e ise hem bu çalışma tamamlanmaktayken Gordion projesinin saha yöneticisi olarak gösterdiği önderlik için, hem de teşvikleri ve pekçok yararlı yorum ve önerileri için özellikle teşekkür etmek istiyorum. Bu çalışmanın başarılı yönlerini yukarıda saydığım kişilerin katkılarına borçlu olduğumu ifade ederken yanlışlıklarının sorumluluğunun bana ait olduğunu belirtmeliyim.

Bu kitap üzerindeki çalışmaların gerçekleşmesi kısmen Davis'teki California Üniversitesi'nin Junior Öğretim Üyesi Burs Programıyla birkaç Öğretim Üyesi Araştırma Bursunun desteği ve Amerikan Felsefe Cemiyetinin Penrose Fonunun bir bursuyla mümkün olmuştur.

## GİRİŞ

Pennsylvania Üniversitesinin Üniversite Müzesi 1950 yılından beri Türkiye'de Ankara'nın yaklaşık altmış mil güneybatısındaki Gordion mahalinde yapılan kazı ve araştırmaları desteklemektedir. Alandaki saha çalışmaları 1950'de gerçekleştirilmiş ve daha sonra 1951'den 1973'e kadar tek sayılı yıllarda, arada çift sayılı yıllardaki birkaç ek sezonla birlikte, devam etmiştir. Kazıdan çıkarılan malzemelerin incelenmesi ve yayına hazırlanması amacıyla 1975'ten bu yana alanda bir seri çalışma sezonu düzenlenmiştir.

Bu yayın, sözcük olmayan karalamaları, boyamaları ve damgaları olan çömlekleri ve diğer nesnelere içeren böyle bir malzeme grubunu sunmaktadır. Söz konusu nesnelere tümü sahiplerini, içeriklerini, kaynaklandıkları yerleri veya ticari kullanımlarını gösterecek bir şekilde işaretlenmiştir. "Sözcük olmayan" terimi bu işaretleri tarif etmek için geliştirilmiştir çünkü bunların hiçbiri belirgin sözcüklerden oluşan bir metni içermemektedir. Bunlar basit çizgi ve X'leri, ayrıntılı şekillerde çizilmiş sembolleri, tek harfleri, birbirine bağlanmış iki harften oluşan birleşimleri, monogramları, iki veya üç ayrı harf ve sayıyı kapsayabilir. Kazıdan çıkarılan tüm sözcük olmayan karalama, boyama ve damgalara sahip nesnelere 560 işaret örneği bu çalışmaya katılmak üzere seçilmiştir.<sup>1</sup> Bunlar yerel olarak yapılmış Firik çömlekleri ve Yunanistan, Lidya ve Anadolu'nun diğer yörelerinden ithal edilen çömlekler üzerinde bulunmaktadır.

Sözcük olmayan işaretler alandaki yerleşimlerin birçok aşaması hakkında bilgi sağlamaktadır. Gordion, Erken Bronz Çağından M.Ö. 189'da terk edilene kadar, M.Ö. üçüncü yüzyıl başlarında Galat istilasının neden olduğu kısa bir ara olasılığı haricinde, sürekli olarak yerleşilen bir mahal olmuştur. Erken ve Orta Bronz Çağlarına ait işaretleri olan nesnelere yoktur, fakat sözcük olmayan işaretler bu yerleşimlerin fiilen diğer her safhasını kapsamaktadır. Tipik Hitit

işaretlerinden oluşan vazo izleri Geç Bronz Çağı çömlerinin üstünde bulunmaktadır. Firik yerleşiminin en başlarında basit çizgili ve taramalı nesnelere üretilmiştir ve bu tür işaretli pek çok nesne M.Ö. yedinci yüzyıl başındaki Kimmer Yıkım Seviyesinde bulunmaktadır. M.Ö. altıncı yüzyıl başında şehrin yeniden inşasından sonra, M.Ö. 189'da şehrin terkedilmesine kadarki süreye ait sözcük olmayan işaretlere sahip bir seri nesne olduğu gibi, Lidya istihkam höyüklerine (Küçük Hüyük) ve tümülüslerin birçoğuna ait işaretli nesnelere de mevcuttur.

Bu çalışmada birkaç grup malzeme göz önüne alınmamıştır. Taş üstündeki yazılar ile çömler ve diğer nesnelere üstündeki karalamalardan oluşan Firik dilindeki metinlere çalışmaya katılmamıştır. Bunlardan bazıları R. S. Young tarafından yayınlanmıştır.<sup>2</sup> Ayrıca Gordion'daki tüm Firik metinleri Claude Brixhe ve Michel Lejeune tarafından Corpus des inscriptions paleo-phyrgiennes adlı eserlerinde yeniden incelenmiş ve yayınlanmıştır.<sup>3</sup> Belirgin Yunanca sözcüklerden oluşan karalamalar veya Yunan ulaşım testileri üstündeki damgalar ele alınmamış, fakat Yunanca olduğu açıkça anlaşılan tek harfler, birbirine bağlanmış iki harften oluşan birleşimler ve monogramlardan oluşan birkaç karalama ve boyama ele alınmıştır. Hitit mühürleri ve mühür izleri, Gordion mühürleriyle ilgili özel bir başka çalışmaya konu olacaktır, fakat çömlerlerin işaretleri ve kimlik işaretleri olarak kullanılan Hitit karalamaları bu çalışmaya dahil edilmiştir.

Sözcük olmayan işaretlere sahip nesnelere, işaretin teknik ve işlevine göre dört bölüm halinde düzenlenmiş, daha sonra her bir bölüm malzemelerin özel tiplerine göre alt gruplara ayrılmıştır. Her alt grupta malzemeler kronolojik bir düzen içinde sunulmuştur. Tüm bölümlerde önce sunulacak malzemeyi tarif eden bir giriş (ve her işaret tipinin bir tartışması), ardından da katalog kayıtları gelmektedir. İşaretlerin karakterleri oldukça değişik olduğu için anlamaları hakkında genel sonuçlara ulaşmak mümkün değildir fakat sondaki kısa bir bölümde çeşitli tipteki işaretler kronolojik bir bakış açısıyla gözden geçirilecektir.

Bölümler şunlardır:

### 1. Pişirilmeden önce tatbik edilen işaretler

Bu işaretler , kabın imalatçısını, işlevini veya gideceği yeri belirtmek için çömler pişirilmeden önce tatbik edilmişlerdir. Bunlar iki grupta toplanmışlardır:

A. Karalamalar

B. Damgalar

### 2. Pişirildikten sonra tatbik edilen mal sahibine ait işaretler

Bu işaretlerin, vazunun üstüne imalatından sonra sahibi tarafından vazunun kendine ait olduğunu belirtmek amacıyla konduğu anlaşılmaktadır. Bunlar üç gruba ayrılmışlardır:

A. Alfabeyle ait olmayan semboller

Bu işaretlerden bazılarınun Anadolu'nun başka yerlerinde bulunan belirli tanınabilen sembollerini temsil ettiği sanılmaktadır. Diğerleri, tek çizgiler, X'ler, taramalar veya kafes şekilleri (kare şeklinde yapılan taramalar) gibi mal sahibi tarafından kendi malını ayırtmak amacıyla basit olarak kazanmış daha rasgele işaretlerdir.

B. Harfler

Bu bölümde tek harfler, birbirine bağlanmış iki harften oluşan birleşimler, monogramlar ve sözcük olarak tasarlanmış görünmeyen iki veya daha fazla ayrı harf ele alınmıştır.

C. Resimler

### 3. Sayısal ve ticari işaretler

Bunlar parçanın ticari trafiği veya ekonomik kullanımı hakkında bilgi sağlayan işaretlerdir. Burada ele alınan tipler şunlardır:

A. Ticari markalar

Bu bölümdeki bütün nesnelere Gordion'a Yunanistan'dan veya Anadolu'nun diğer

bölgelerinden ithal edilen çömleklerdir. İşaretler , kabın üstüne ihracatçısı veya ticari idarecisi tarafından konan karalama ve boyamalardan oluşmaktadır. Bunlar "acrophonic" sayıları, harfleri ve alfabeyle ait olmayan sembolleri içermektedir.

#### B. Kapasite işaretleri

Bu işaretler kabın kapasitesini (gerçek veya potansiyel) göstermektedir. Bunların tümü yerel olarak imal edilen depolama kapları üstünde bulunmaktadır.

#### 4. Muhtelif

Bu bölüm daha önceki üç kategoriye girmeyen işaretleri kapsamaktadır. Bunlar çeşitli taş nesnelere üstündeki işaretleri , bir kiremit üstündeki oyun tahtası örneğini ve Bizans Yunancası bir karalama örneğini içermektedir. Sonuncusunun burada ele alınmasına neden bu karalama ile Firik ve eski Yunan çömlekleri üstündeki karalamalar arasında uzun bir zaman süresi olmasıdır.

Her bölümdeki katalog kayıtları aşağıdaki biçime göre düzenlenmiştir. Önce katalog numarası ve ismi, ikinci olarak Gordion envanter numarası ve kaynağı, sonra da ölçüler gelmektedir. Bunları parçanın tarifi, işaretin tipi ile yeri, işaretin tarifi ve parçanın tarihi izlemektedir. Birkaç parçada birden fazla işaret vardır ; örneğin, hem bir harf, hem de alfabeyle ait olmayan bir sembol. Bu durumlarda her bir işaret kataloğa ilgili bölüm altında ayrı olarak işlenmiş ve çift kayıtlı parçalara karşılıklı olarak referans verilmiştir.

Şehir Höyüğünden çıkarılan parçaların kaynakları ait oldukları çukurun veya binanın isimleri ile belirtilmiştir. Parça özel bir oda olarak bilinen bir üniteden geldiğinde, bu bilgi çukur ismine ek olarak verilmiştir. Tümülüsler , Gordion kazısındaki geleneğe uyarak harflerle belirtilmişlerdir. Gordion'da Tümülüs MM diye adlandırılan en büyük tümülüs haricindeki tümülüsler A-Z harfleriyle tanımlanmıştır. Alanın genel bir planı ve Yıkım Seviyesi (M.Ö. yedinci yüzyıl başı) ile Orta Firik Seviyesinin ( ilk mahal raporlarında Pers veya Eski



Seviye diye de adlandırılan M.Ö. altıncı yüzyıl ile dördüncü yüzyıl başı arası) mimari planları dahil edilmiştir.

Parçaların tarihlerini tayin etmenin zorluğu ve kesin bir sonuca ulaşılmadan kalışı nedeniyle birçok tarih geçici olarak kabul edilmelidir. Tarihi olaylar arasına özel kronolojik bir çerçeve oluştururlar. Buna örnek olarak Gordion'un Kimmer işgalcileri tarafından M.Ö. yedinci yüzyıl başlarında yıkılması,<sup>4</sup> Lidya kışlasının M.Ö. yaklaşık 547'de yıkılması,<sup>5</sup> Galatyalıların M.Ö. üçüncü yüzyılın ikinci çeyreğindeki saldırısı<sup>6</sup> ve şehrin M.Ö. 189'da terk edilmesi<sup>7</sup> verilebilir. Fakat çoğu durumda tarihi olaylarla hiçbir belirgin ilişki bulunmadığından, arkeolojik bilgilerin belli bir nesnenin ve işaretinin kronolojisini belirlemek için kullanılması gereklidir. Genellikle arkeolojik koşulların tarihinin belli bir parçanın tarihini yansıttığı beklenebilir ve özellikle tümülüsler gibi kapalı birikintilerden çıkan parçalar için bu gerçekten doğrudur. Şehir Höyüğünde bulunan birçok nesnenin durumu genellikle daha az belirgindir ve erken dönemlere ait parçalar burada bu kadar sık olarak daha geç, hatta bazan çok geç koşullarda bulunmuş olduğu için koşullara ait tarih ancak genel bir kapsam sağlayabilir. Büyücek bir işaret grubunun belirgin terminus ante quem'i burada belirtilmelidir: Orta Firik Seviyesindeki Kuzey ve Güney Mahzenlerinden oluşan iki büyük çömlek deposunun kapanması. Bu iki mahzende M.Ö. altıncı yüzyıl başlarından dördüncü yüzyıl başlarına kadar uzanan bir süreye ait olduğu anlaşılan önemli miktarda işaretli vazo bulunmaktaydı. M.Ö. dördüncü yüzyıl başlarındaki bir zelzenenin bu seviyenin önemli bir bölümünü yıkmasından sonra mahzenlerin dolduğu sanılmaktadır.<sup>8</sup>

Bir işaretin tarihini belirleyebilmek için bir başka araç da çömleklerin kronolojisidir, fakat bunun da kendine özgü sınırlamaları vardır. Yunan çömlekleri üstündeki işaretlere bazan oldukça kesin bir tarih verilebilir, fakat Yunan çömleklerinin çoğunun, özellikle siyah sırlı çömleklerin, kaynağı bilinmediği için imalat tarihleri genellikle kesin değildir.<sup>9</sup>

Yerel olarak yapılan dokumalar (büyük çoğunluğu) üstünde bulunan işaretlerin kronolojisi daha da az kesindir. Gordion dikkatle kazılmış birkaç Firik mahalinden biridir ve özellikle M.Ö. altıncı yüzyıl ve sonrasına ait Firik çömleklerinin incelenmesi hâlâ ön aşamalarında olduğundan çömlek şekilleri hakkındaki bilgimiz ender olarak özel bir tarihi verecek kadar kesin olabilmektedir. Bir Firik vazosu bir Yunan parçasını taklit ettiğinde bir terminus post quem mümkündür, fakat Firik çömlekleri Yunan çömleklerinden daha tutucu görüldüğü için bu da ancak genel bir kapsam sağlayabilir. M.Ö. dördüncü yüzyılın ikinci yarısı ve sonrasına ait Gordion malzemelerinin henüz yeni inceleniyor oluşu ve 1969-1973 kazı sezonlarından çıkan malzemelerin ön raporlarda yayınlanmamış oluşu ek sorunlara yol açmaktadır.

Tarih tespit etmenin bir başka kriteri de Bölüm 2B'de tartışılan harf şekilleri olabilir, fakat bunlar da pek az yardım sağlamaktadır. Bir Firik metninin tarihini tesbit etmek için o kadar az dış kriter vardır ki (hem taş üstündeki yazılara, hem de çömlekler üstündeki karalamalara uygulanabilen bir durum) harf şeklinin tarihi metnin üstünde yer aldığı nesnenin tarihini belirleyeceğine, genellikle bunun tam tersi olur.

Aşağıdaki sistem (Mabel Lang tarafından da Atina Agorasındaki karalama ve boyamaların sunusunda kullanılmıştır)<sup>10</sup> her bölüm içindeki kayıtları kronolojik bir dizi halinde düzenlemek üzere benimsenmiştir: önce daha kesin tarihli parçalar konmuş, ardından da daha genel kapsamlı olanlar eklenmiştir. Örneğin, M.Ö. altıncı yüzyılın ilk yarısına ait bir parça, M.Ö. altıncı yüzyıla ait bir parçadan önce geleceği gibi, bu parça da tarihi sadece M.Ö. altıncı ile dördüncü yüzyıllar arasında olduğu bilinen başka bir parçadan önce gelecektir. Tarihi M.Ö. altıncı ve dördüncü yüzyıllar arasında verilen bir parça aslında altıncı yüzyılın başlarına ait olabilir ve dolayısıyla M.Ö. altıncı yüzyıl sonlarına ait parçadan önce gelebilir, fakat Firik çömlek biçimlerinin kronolojisi hakkındaki bilgimiz arkeolojik koşulların tarihinden daha kesin bir tarihi ender olarak verdiği için bu kronolojik düzen metodunu kullanmaya devam etmek en iyi yol

olarak görünmektedir. Gelecekte Gordion'daki diğer malzeme grupları üzerinde yapılacak incelemeler ki bunlardan bazıları şu anda sürmektedir, kronolojik belirsizliklerin pekçoğunu kesinleştirmekte şüphesiz yardımcı olacaktır.

Bölüm 2B'de mal sahiplerinin işaretleri olarak kullanılan harfler aşağıdaki sisteme göre uyarlanmıştır. Kesin olarak Gordion'un geleneksel yazı düzeninde olan harfler küçük Latin harfleriyle belirtilmişler (italik harflerle) ve M. Lejeune tarafından Firik alfabesi için saptanan geleneklere göre yazılmışlardır.<sup>11</sup> Gordion'da kullanılan Firik alfabesi ve bunun Latince karşılıkları Ek 1'de verilmiştir.<sup>12</sup> Kesinlikle Yunan alfabesinde olan harfler büyük Yunan harfleriyle belirtilmişlerdir; bunlar yalnızca , gibi Firik harflerinden farklı olan tipik Yunan harf biçimlerini değil, Firik alfabesinde görülmeyen , , , , , ve harflerini de kapsamaktadır. Fakat birçok durumda hangi yazı sisteminin kullanıldığı belli değildir çünkü Firik ve Yunan alfabelerindeki harflerin çoğu aynıdır. Bu durumlarda Firik alfabesinin kullanıldığını varsaydım. Fakat bu varsayım özellikle M.Ö. dördüncü yüzyıl sonlarından şehir terk edilene kadarki süreye ait çömler üstündeki tek harfler özelinde geçici olarak kabul edilmelidir çünkü bu devirde belirgin olarak Yunan alfabesinin kullanıldığı bazı Yunanca yazı ve karalamalar ortaya çıkmıştır.<sup>13</sup> Fakat tipik Firik harf şekillerinden birkaç örnek M.Ö. üçüncü yüzyıldan kalma çömlerin üstünde görüldüğünden, belirgin bir Yunan harfinin görülmediği herhangi bir harf karalamasının Firikçe olması mümkündür. Parçaları alfabeden harflerle tarif ederken, 'ligature' kavramı, yan yana yazılmış ve tek bir darbeyle birleştirilmiş iki harfi belirtmek üzere, 'monogram' ise daha karmaşık olarak birleştirilen iki veya daha fazla harfi belirtmek üzere kullanılmıştır.

Aşağıdaki kitabe gelenekleri uygulanmıştır:<sup>14</sup> köşeli parantezlerin kullanılması, , kaptaki bir kırık nedeniyle yok olması mümkün olan harfleri göstermekte; satırın altına yazılmış a b gibi noktalar okunuşu şüpheli harfleri belirtmektedir.

Şekiller her işaretin 1:2 ölçeğindeki bir çizimini içermektedir. Buna ek olarak, çizime oranla fotoğrafta daha net olarak çıkacak bütün boyamaların ve ilginç karalama ve damgalardan seçme bir grubun fotoğrafları vardır.

## NOTLAR

1. Bölüm 1, 3 ve 4'ün katalogları bu kategorilere uygun, bilinen her sözcük olmayan işaret örneğini içermektedir. Üstlerinde Bölüm 2'ye dahil edilebilecek işaretler, yani mal sahiplerinin işaretleri, olan nesnelerin sayısı oldukça kabarıktır ve basit çarpılardan, X'lerden ve sadece rasgele çizikler olabilecek çizgilerden oluşan işaretlerden birçoğu ele alınmamıştır çünkü bunların katkısı pek az olabilir. Özel modeller, semboller ve resimlerin tüm örnekleri ile harf şekillerinin tüm örneklerini dahil edebilmek için her çaba harcanmıştır.
2. Young (1969b) 252-296.
3. Brixhe ve Lejeune (1984).
4. Strabo 1.3.21. Kimmer istilası üzerine, bakınız Kallinos, aktaranlar Strabo 14.1.40 ve Herodotos 1.6.
5. Cyrus kumandasındaki Pers ordusunun M.Ö. 547'de Sardis'in yağmalanmasıyla sonuçlanan orta Anadolu'daki eylemleriyle bu olayın kesin olarak ilişkisi kurulmalıdır. Herodotos 1.81-86. Bakınız Young (1953a) 159-166.
6. Galatyalılar tarafından Gordion'da yaratılan karışıklıkların delilleri Cox (1966) 19, 32, 50 ve Winter (1984) 25, 30-35 tarafından özetlenmiştir.
7. Livy 38.13.11-13.
8. Young (1966) 268-269.
9. Winter (1984) 71-72.
10. Lang (1976) 2.
11. Lejeune (1969a) 20 ve 39; (1970) 55 ve 60.
12. Brixhe ve Lejeune (1984) 79'a da bakınız.
13. Young (1953b) 6. Yunanca kitabe metinleri yazar tarafından yayına hazırlanmaktadır.
14. Kitabelere ait gelenekler, AJA 82 (1978) 4'de tarif edilen "Leyden sistemi"ne dayanılarak biçimlenmiştir.

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# Index

- ACHAEMENIAN;**  
Masons' Marks; 13-14  
Seals; 4, 12, 34
- ALACA HÜYÜK;** 1, 2
- ALIŞAR HÜYÜK;** 52
- ALPHABET;**  
Carian; 12, 12 n. 38, 35 n. 25  
Greek; 11, 11 n. 75, 35-37, 72-74  
Ionic; 57 n. 16  
Lycian; 11  
Lydian; 11  
Pamphylian; 11  
Phrygian; 11, 11 n. 27, 15, 33-35, 35 n. 27, 36, 36 n. 34, 71-74  
Side; 35 n. 25
- AMPHORA HANDLES, STAMPED;** xx, 58-59
- ANATOLIAN;**  
Coins; 13, 69, 73  
Mason's Marks; 12, 13, 70  
Scripts; 12. *See also* CARIA, CILICIA, LYCIA, LYDIA, PAMPHYLIA, PHRYGIA.
- ATHENS;**  
Agora; 35 n. 25, 36 n. 34, 58 n. 19, 61 n. 5
- ATTIC POTTERY;** 15, 15 n. 66, 36, 55, 56, 56 n. 11, 57, 72
- BÖGAZKÖY;** 1, 2, 4 n. 20, 10, 11, 12, 15, 33 n. 2, 35 n. 20, 52, 71, 72
- BOSPOROS;** 58
- BRONZE AGE;** 15, 35, 35 n. 20  
Early and Middle; xx  
Late; xx, 1-2, 9, 10, 52, 73
- BYZANTINE;** xxi, 70
- CARIA;**  
Alphabet; 35 n. 25  
Coins; 58  
Script; 10 n. 24, 11, 35 n. 27, 55, 58
- ÇEPNI;** 33 n. 2
- CHIOS;** 15
- CILICIA;** 13  
Coins; 13, 13 n. 53
- COINS;**  
Anatolian; 13, 71, 73  
Cilician; 13, 13 n. 53  
Countermarks; 4 n. 17, 13, 13 nn. 53 and 56, 58, 69, 73  
Cypriote; 13 n. 53  
Devices; 58, 73  
Gordion; 13, 13 n. 53  
Greek; 13, 13 n. 56, 36  
Hoards; 13 nn. 53 and 56  
Lycaonian; 13 n. 56  
Lycian; 4, 4 n. 17, 13, 58  
Lydian; 13  
Persian; 13 nn. 53 and 56  
Phaselis; 58  
Phoenician; 13 n. 53  
Syracusan; 13 n. 53
- CYPRUS;** 10 n. 10  
Coins; 13 n. 56  
Script; 11, 11 nn. 32 and 34
- DESTRUCTION LEVEL;** *See* KIMMERIAN, *Destruction Level.*
- EPHESOS;** 57
- GALATIAN INVASION;** xx, xxi, 63, 74
- GAMES;** 70
- GORDION;** *See* BRONZE AGE, KIMMERIAN DESTRUCTION LEVEL, KÜÇÜK HÜYÜK, MIDDLE PHRYGIAN LEVEL, TUMULI.
- GREEK;**  
Alphabet; 11, 16 n. 75, 35, 36, 37, 72, 73, 74  
Byzantine; xxi, 70  
Coins; 13, 13 n. 56, 36  
Graffiti; 16 n. 75, 34  
Horse Brands; 15  
Pottery; 15, 15 nn. 66 and 73, 36, 55, 56, 56 n. 11, 57, 58, 72, 73  
Script; xx, 3, 10 n. 24, 34, 36, 37, 37 n. 41

Trademarks; 10 n. 10, 15, 36  
 Transport Amphoras; xx, 57, 58, 58 n. 18

GYGES; 12, 12 n. 44

**HITTITE;**

Empire; 1, 4, 52, 71  
 Graffiti; xx, 11, 71  
 Hieroglyph; 1-2, 51, 71  
 Marks; xx, 9, 10, 14, 52, 71, 73  
 Pottery; 1, 2, 4, 9, 10, 52, 72  
 Seals; xx, 12, 52, 71

HORSE BRANDS; 15, 72

**IONIC;**

Alphabet; 57 n. 61  
 Numerals; 63-65, 74

ITALY; 15, 56

KAYALIDERE; 63, 63 n. 20

**KIMMERIAN;**

Destruction Level; xx, 9, 10, 33, 52, 61, 61 n. 3, 63 n. 18,  
 65, 71, 72  
 Invasion; xxi, 9

KÜCÜK HÜYÜK; xx, xxi, 9, 34, 72

KYBELE; 52, 71

LABRAUNDA; 15 n. 66, 56

LIGATURE; 3, 36, 55, 56, 57, 58 n. 18, 69

LYCAONIAN COINS; 13 n. 56

**LYCIA;**

Coins; 4, 4 n. 17, 13, 58  
 Script; 11

**LYDIA;**

Coins; 13  
 Masons' Marks; 11-12, 12 n. 45  
 Pottery; 58  
 Script; 4 n. 17, 11, 12  
 Seals; 4 n. 17, 12

LYDIAN MOUND; *See* KÜCÜK HÜYÜK.

MACEDONIA; 73

MASONS' MARKS; 12, 12 n. 45

Achaemenian; 13  
 Anatolian; 12, 13, 70, 72  
 Lydian; 12, 13 n. 45

MIDAS CITY; 11, 12, 33 n. 2

MIDDLE PHRYGIAN LEVEL; xxi-xxii, 2, 34, 63, 63  
 n. 18, 72

Building A; 2, 3, 62, 72  
 North and South Cellars; xxi-xxii, 9

MILETOS; 57

MONOGRAM; 3, 12 n. 44, 36, 57, 58

NEMRUD-DAG; 12, 12 n. 40

OLD SMYRNA; *See* SMYRNA.

PAMPHYLIA; 11

PANTICAPEUM; 58

PASARGADAE; 13

Tall-i-Takht; 13

PERGAMENE MEASURING SYSTEM; 64, 74

PERSEPOLIS; 13

Sculpture; 13  
 Treasury; 13

**PERSIA;**

Coins; 13 nn. 53 and 56

PHASELIS; 58

PHOENICIA; 13 n. 56

**PHRYGIAN;**

Alphabet; 11, 11 n. 27, 15, 33, 34, 35, 35 n. 27, 36, 36  
 n. 34, 71, 72, 73, 74  
 Graffiti; 12 n. 35  
 Language; xx, 33  
 Pottery; 10, 11, 12, 16 and *passim*  
 Script; xx, 11, 30, 33, 34, 36, 37, 63 n. 17, 73, 74  
 Seals; 12, 53, 70

**POTTERY;**

Alaca Hüyük; xxii, 2, 52  
 Alişar Hüyük; 52  
 Attic; 15, 15 n. 66, 36, 55, 56, 56 n. 11, 57, 72  
 Böğazköy; 1, 2, 4, 10, 71, 72  
 Greek; 15, 15 nn. 66 and 73, 36, 55, 56, 56 n. 11, 57,  
 58, 72, 73  
 Hittite; 1, 2, 4, 9, 10, 72  
 Late Bronze Age; 1-2, 9, 10  
 Phrygian; 10, 11, 12, 16, and *passim*  
 Tarsus; 1, 2  
 Thasian; 57, 58 n. 18

RHODES; 15

SAMOS; 15

SARDIS; 11 n. 33, 12, 12 n. 44, 35 n. 27

SCRIPTS;

Anatolian; 13

Carian; 10 n. 24, 11, 11 n. 33, 55, 58

Cypriote; 11

Greek; xx, 3, 10 n. 24, 34, 36, 37, 37 n. 41

Lycian; 11

Lydian; 4 n. 17, 11, 12

Pamphylian; 11

Phrygian; xx, 11, 30, 33, 34, 36, 37, 63 n. 17, 73, 74

SEALS;

Achaemenian; 4, 12

Bogazköy; 12, 52, 71

Hittite; xx, 12, 52, 71

Lydian; 4 n. 17

Nemrud-Dag; 12, 12 n. 40

Phrygian; 12, 53, 70

Side; 35 n. 25

SMYRNA; 52, 56, 56 n. 11, 57

SUSA;

Apadana; 13

SYRACUSE;

Coins; 13 n. 53

TARSUS; 1, 2, 12, 12 n. 37

THASOS;

Pottery; 57, 58 n. 18

THRACE; 73

TRADEMARKS; 10 n. 10, 15, 36, 55, 56

TRANSPORT AMPHORAS;

Samian; 57, 58

Thasian; 57, 58 n. 18

TROY; 15 n. 66

TUMULI;

Tumulus D; 2

Tumulus E; 35, 61, 63 n. 16, 69

Tumulus of Gyges; 12, 12 n. 44

Tumulus H; 37, 61 n. 7, 71

Tumulus K-II; 61, 61 n. 7, 72

Tumulus MM; 11 nn. 26 and 27, 33, 71, 73

Tumulus P; 2

URARTU; 3, 65, 72

UŞAK ; 64



# Chart A

## *Epichoric Anatolian Letters Found as Nonalphabetic Marks*

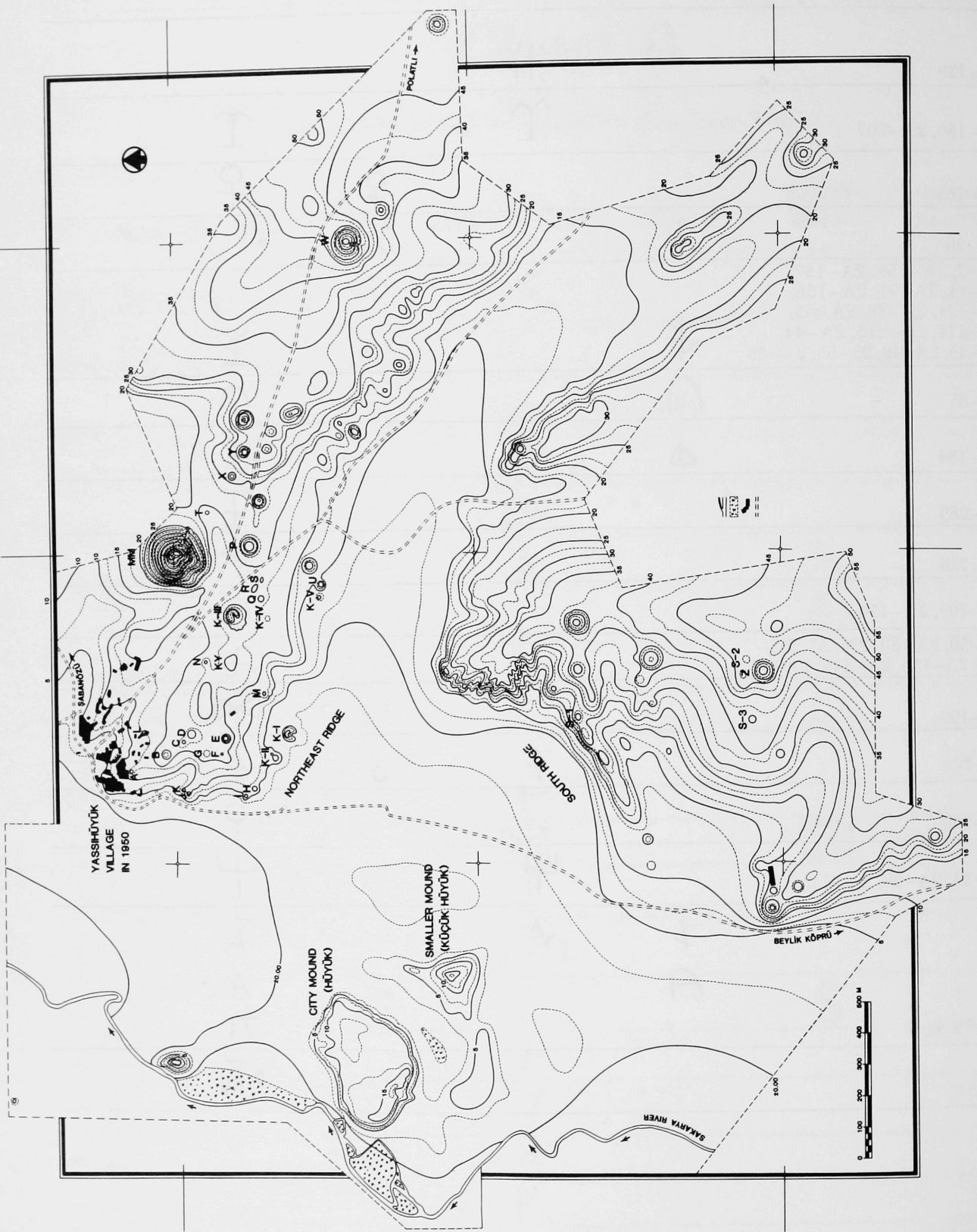
GORDION INV. NO.	LYDIAN	CARIAN	LYCIAN	PAMPHYLIAN	CYPRIOTE
2A-14, 2A-102	∟	∟			
2A-173, 2B-100 (I 101)		⊙			
2A-179, 2A-130, 2A-135, 2A-83	∩		∩		
1B-1, 1B-4, 1B-5, 1B-14, 1B-3, 1B-10, 1B-11, 1B-6, 1B-7, 1B-9, 2A-200, 2A- 138, 2A-289	λ				
2A-159	⊥	⊥	⊥		
2A-209, 2A-154		⊙			⊙
2A-90		⊞			
2A-205		⊙	⊙	⊙	
2B-44		⊙			
2A-180, 2A-229, 2A-125, 2A-62, 2A-202, 2A-131, 2A-134, 2A-162, 2A-139, 2A-223, 2A-111/2B-44, 2A-119, 2A-272, 2A-192		⊞			⊞
2A-199		⊞			
2A-215		⊞			
2A-184		∇			
2A-207					∩
2A-39					∩
2A-195					⊥
2B-112		∧		∨	∧
2A-7, 2A-155, 2A-157, 2A-91, 2A-158, 2A-121, 2A-38, 2A-65, 2A-174, 2A-44, 2A-45, 2A-212, 2A-40, 2A-55, 2A-53, 2C-11	∩		∩		

# Chart B

## *Marks Which Appear on Other Anatolian Objects*

GORDION INV. NO.	SEALS	COIN COUNTERMARKS	COIN DEVICES	MASONS' MARKS	HORSE BRANDS
1B-1, 1B-5, 1B-7, 1B-11, 2A-200, 2A-89	5	5			5
1B-4, 1B-14, 1B-3, 2A-138, 1B-6, 1B-9, 1B-10	2	2			
1B-2		5	5		
2A-35, 2A-156		⊕			
2A-54		⊗			
2A-14, 2A-102	λ	λ		λ	
2A-52, 2A-118		○		○	
2A-87/3B-12		☾			
2A-173, 2B-100	C	C		C	
2A-164, 2A-224, 2A-46, 2A-122, 2A-123, 2A-198, 2A-94, 2A-76, 2A-169, 2A-61		+			
2A-58, 2A-68		⊠		⊠	
2A-111, 2A-216		†			
2A-67, 2A-84		☞			
2A-153	S	2		S	
2A-101		⊥			
2A-88		∩			
2B-98	∧	∧			
2A-98		F			
2A-75	~	ε			
2A-66, 2B-25		⊗			

GORDION INV. NO.	SEALS	COIN COUNTERMARKS	COIN DEVICES	MASONS' MARKS	HORSE BRANDS
2A-129					
2A-130, 2A-207					
2A-163					
1A-20					
2A-7, 2A-155, 2A-157, 2C-11, 2A-91, 2A-158, 2A-121, 2A-38, 2A-65, 2A-174, 2A-212, 2A-44, 2A-45, 2A-40, 25-55, 2A-53					
2A-85					
2A-184					
2A-289					
2A-226					
2A-209, 2A-154					
2A-50, 2A-60, 2A-57, 2A- 132, 2A-136, 2A-149, 2A-72					
2A-192					
2A-208					
2A-205					
2A-33, 2A-99, 2A-113					
2A-49, 4-6					
2A-58					



Plan 1. Plan of the Site



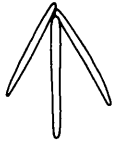
*Plan 2. Middle Phrygian Level of the City Mound.*



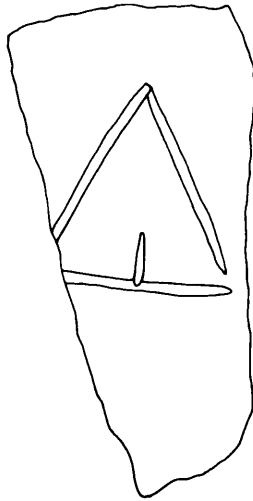
GORDION

0 100 m.  
 1973 HEMANS, CUMMER 1:500 SCALE

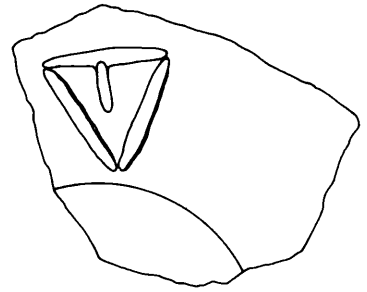
Plan 3. Destruction Level of the City Mound.



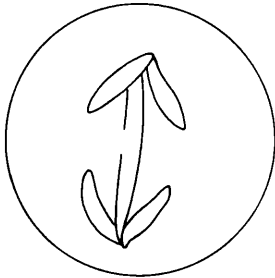
1A-1



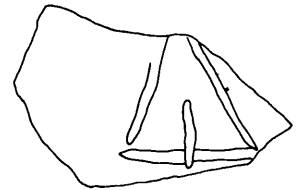
1A-5



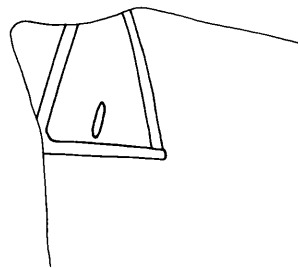
1A-8



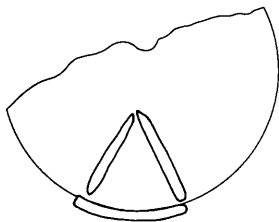
1A-2



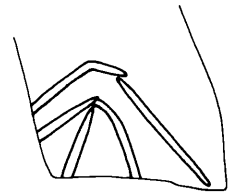
1A-9



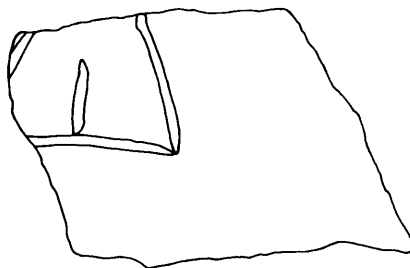
1A-6



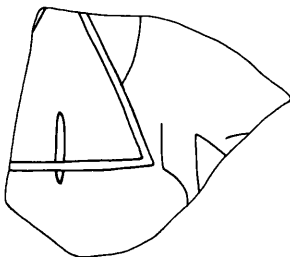
1A-3



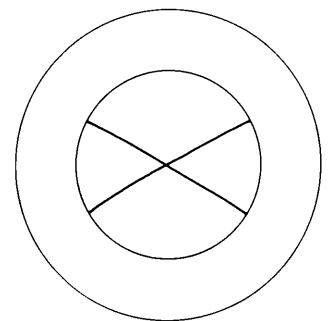
1A-10



1A-7



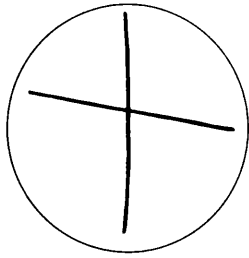
1A-4



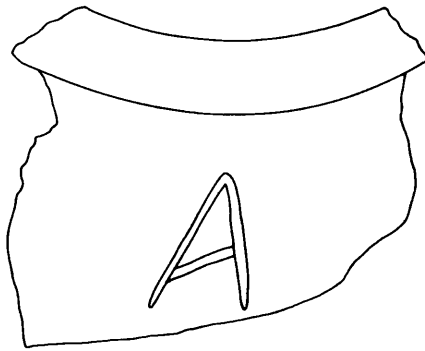
1A-11

FIGURE 2

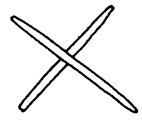
1A GRAFFITI APPLIED BEFORE FIRING



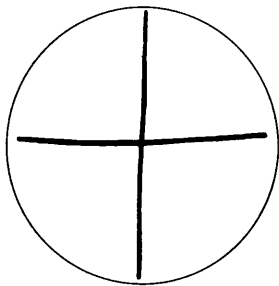
1A-12



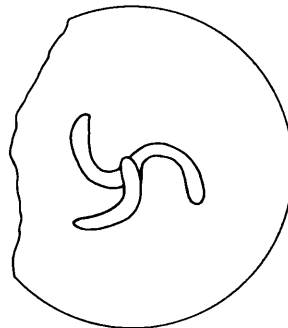
1A-16



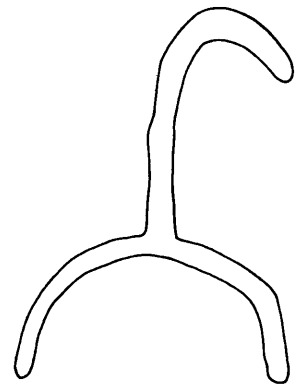
1A-17



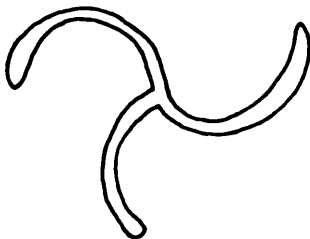
1A-13



1A-18



1A-20



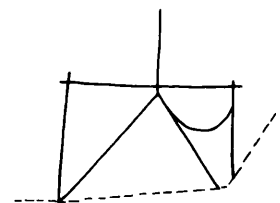
1A-14



1A-19



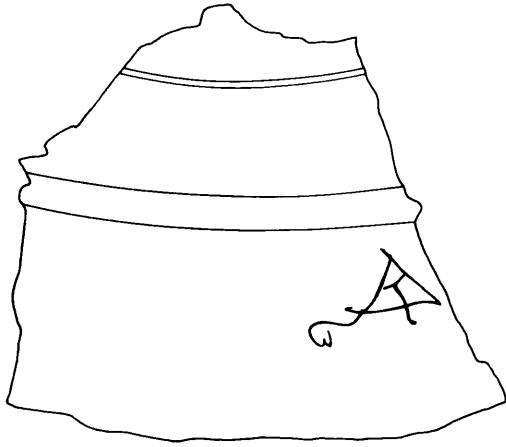
1A-15



1A-21



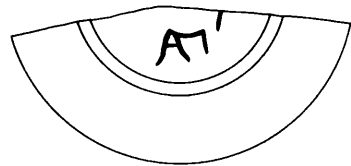
1A GRAFFITI APPLIED BEFORE FIRING 1B STAMPS APPLIED BEFORE FIRING FIGURE 3



1A-22

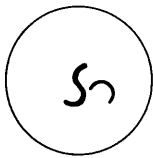


1A-23



1A-24

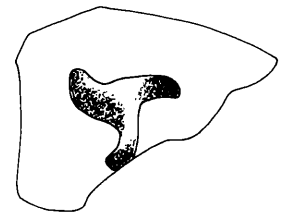
1B STAMPS APPLIED BEFORE FIRING



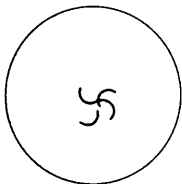
1B-1



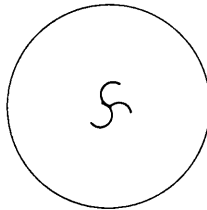
1B-4



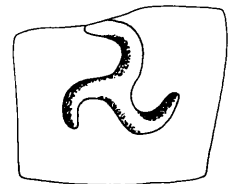
1B-7



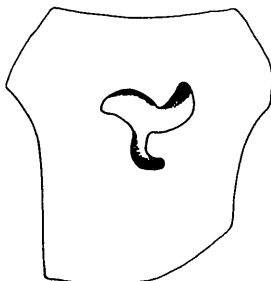
1B-2



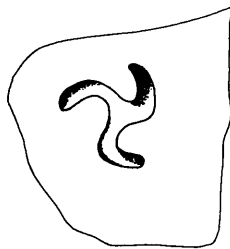
1B-5



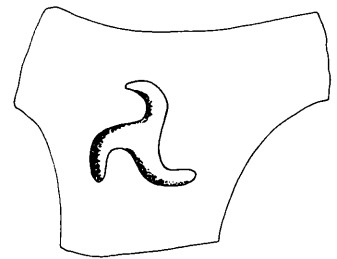
1B-8



1B-3

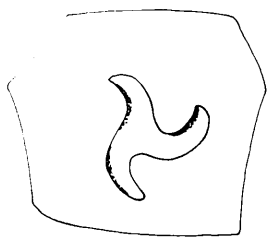


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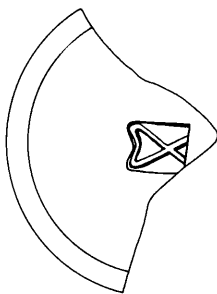


1B-9

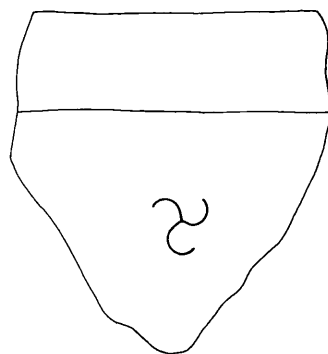
FIGURE 4 1B STAMPS APPLIED BEFORE FIRING 2A NONALPHABETIC OWNERS' MARKS



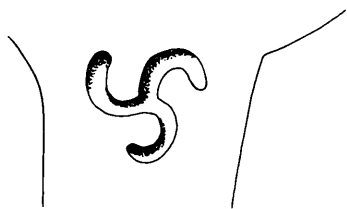
1B-10



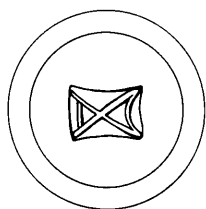
1B-12



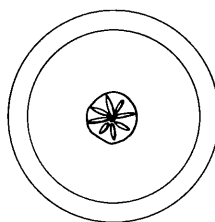
1B-14



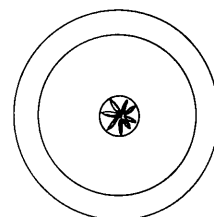
1B-11



1B-13

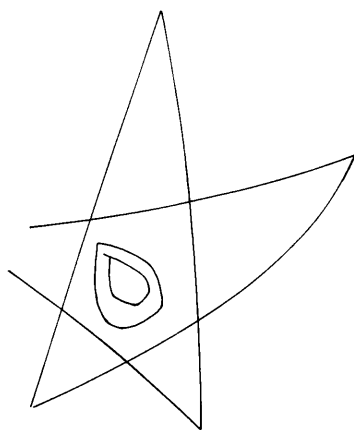


1B-15

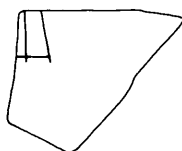


1B-16

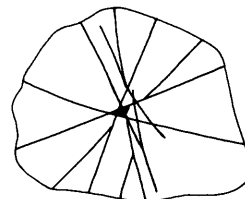
2A NONALPHABETIC OWNERS' MARKS



2A-1



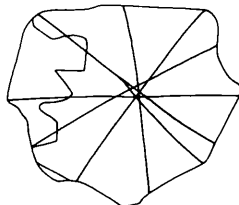
2A-3



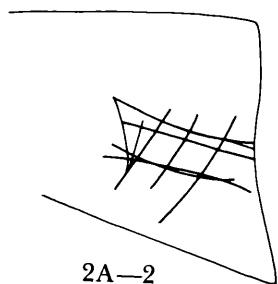
2A-6



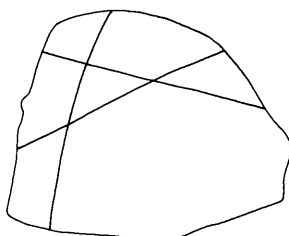
2A-7



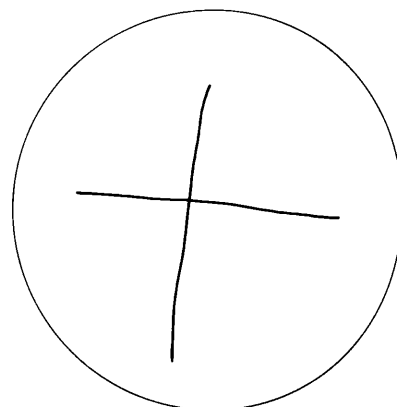
2A-4



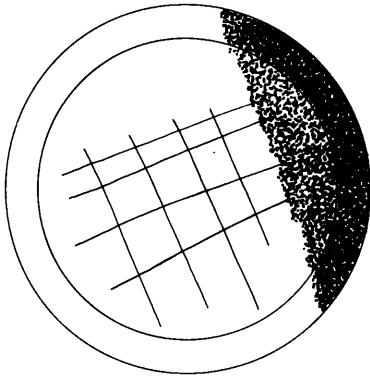
2A-2



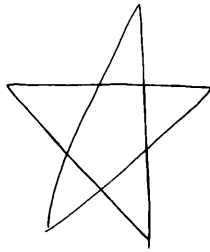
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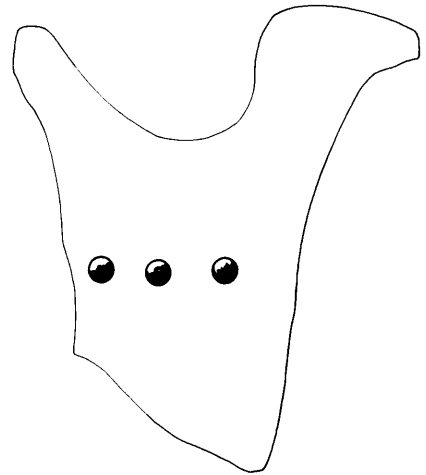
2A-8



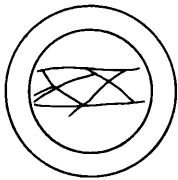
2A-9 ext.



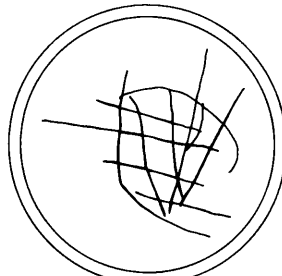
2A-9 int.



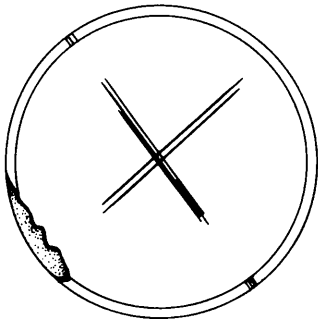
2A-16



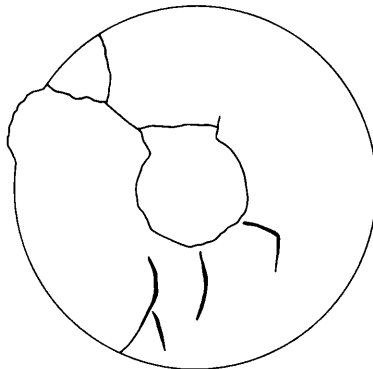
2A-10



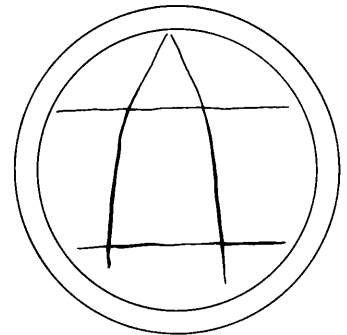
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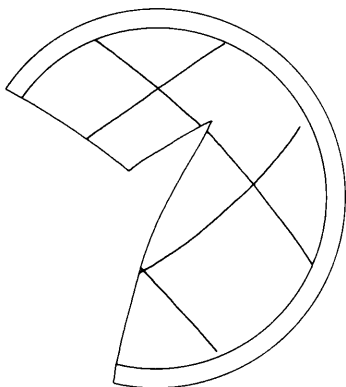
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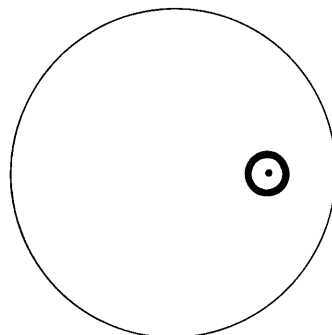
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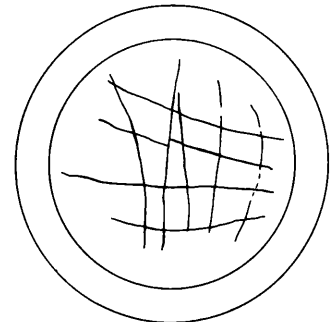
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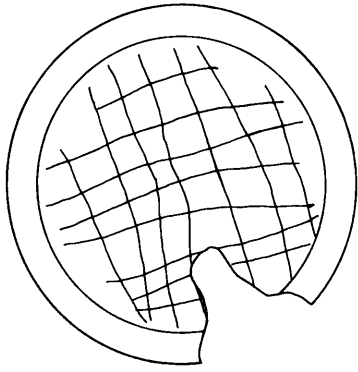
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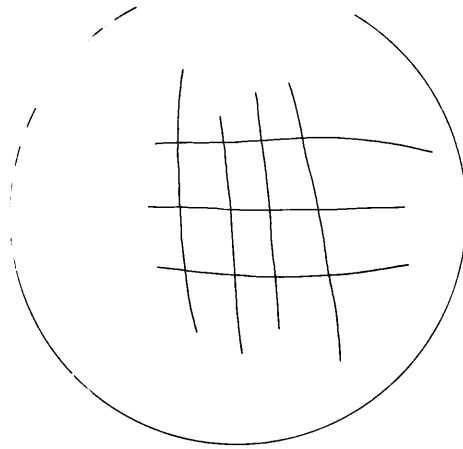
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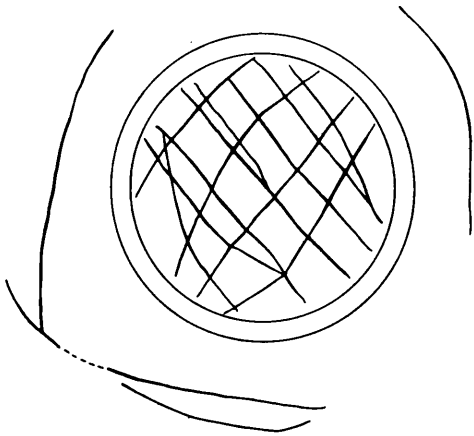
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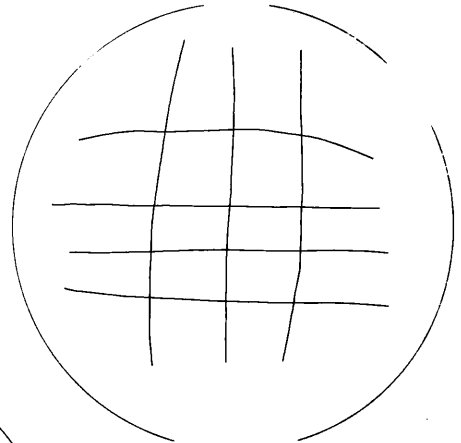
2A-19



2A-22



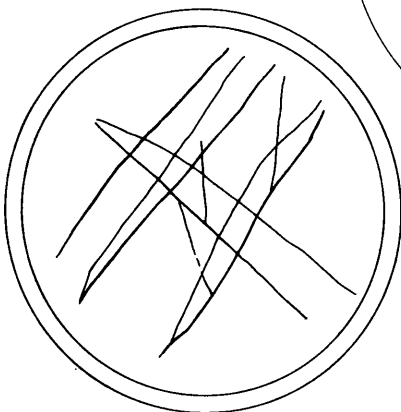
2A-20



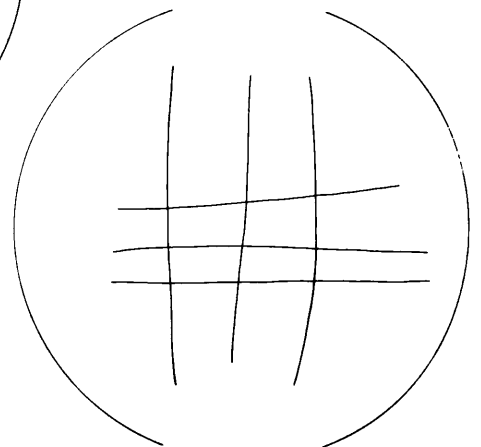
2A-24



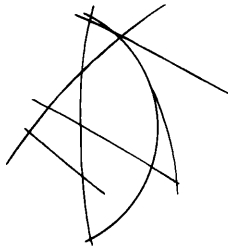
2A-23



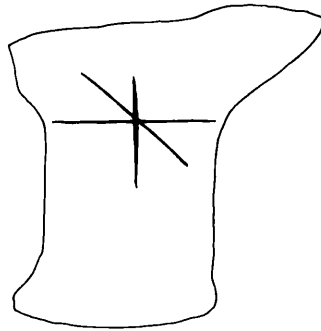
2A-21



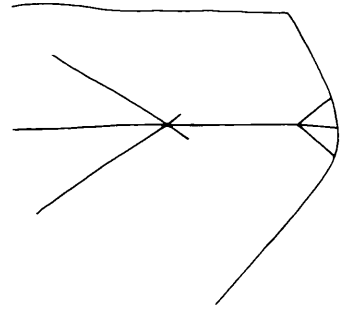
2A-25



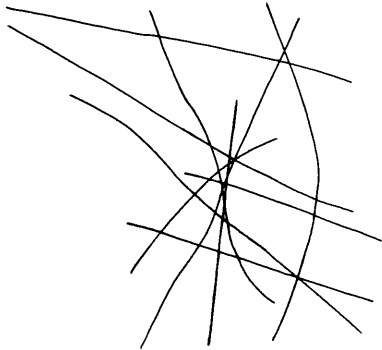
2A-26



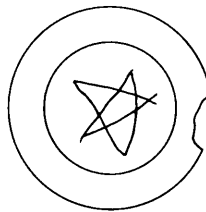
2A-30



2A-34



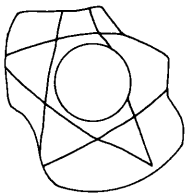
2A-26



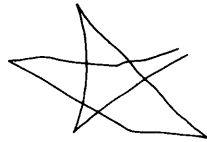
2A-31



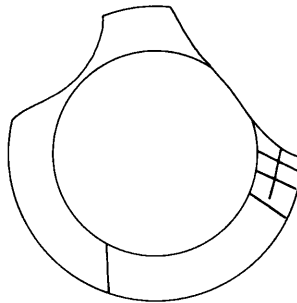
2A-35



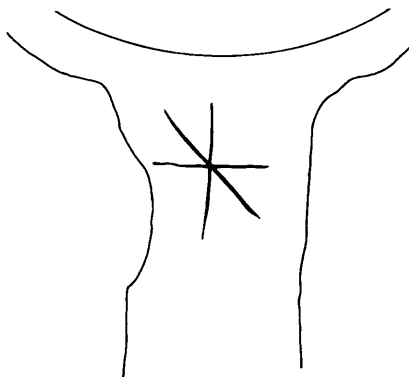
2A-27



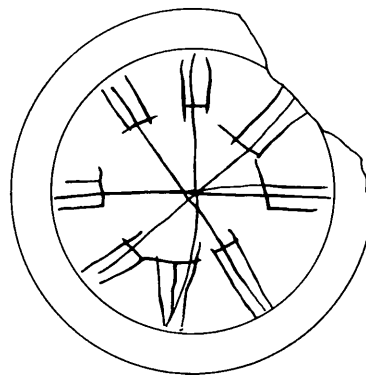
2A-28



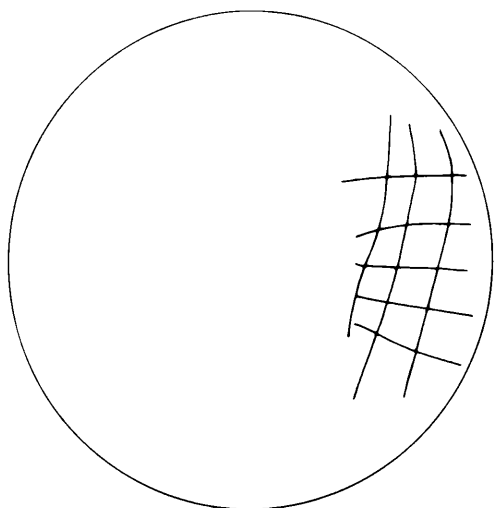
2A-32



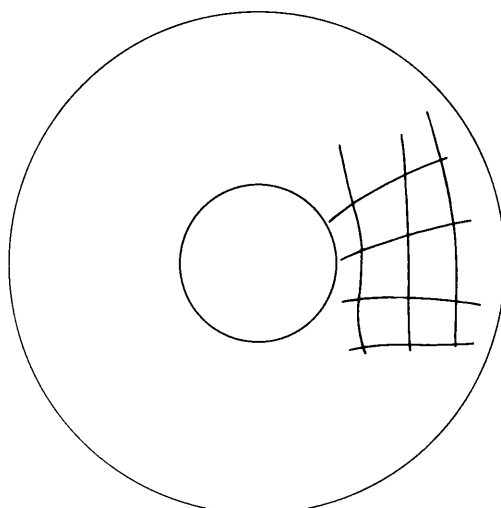
2A-29



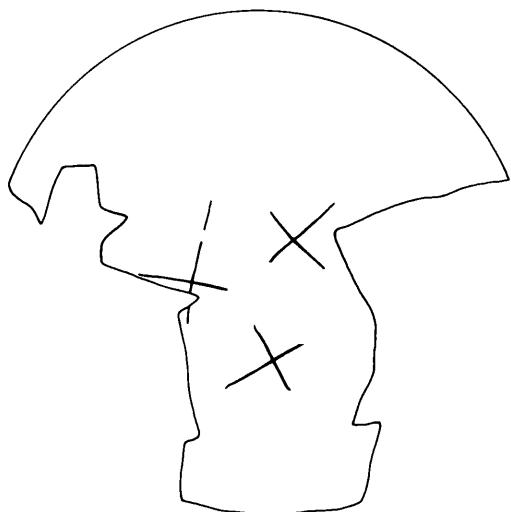
2A-33



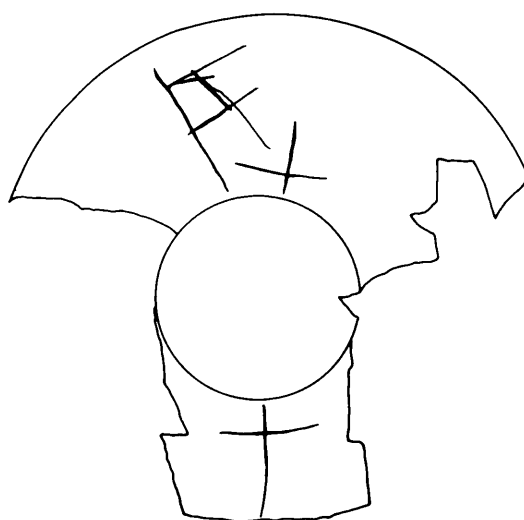
2A-36 *int.*



2A-36 *ext.*



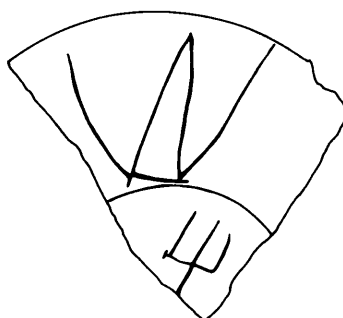
2A-37 *int.*



2A-37 *ext.*



2A-38



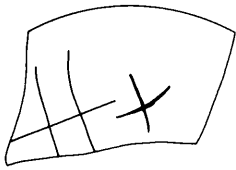
2A-39



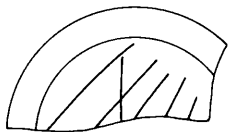
2A-40



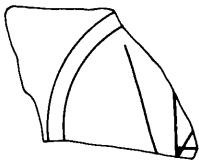
2A-41



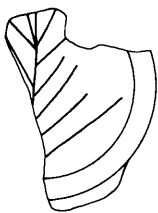
2A-42



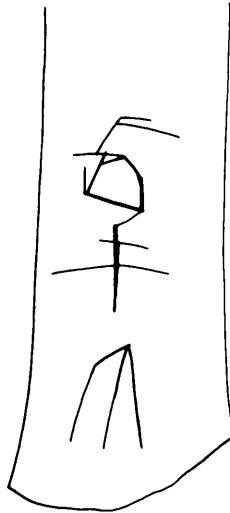
2A-43



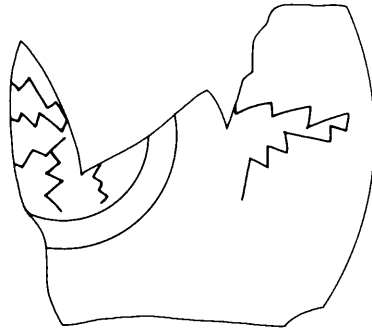
2A-44



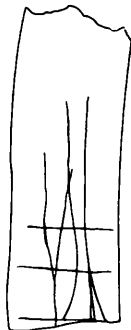
2A-45



2A-46



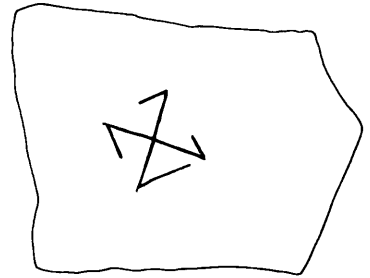
2A-47



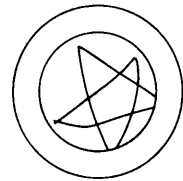
2A-48



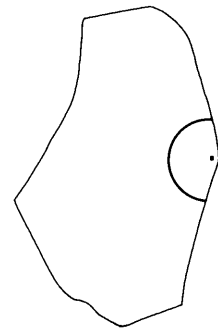
2A-49



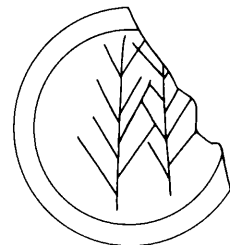
2A-50



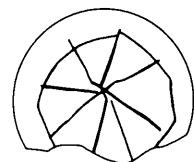
2A-51



2A-52



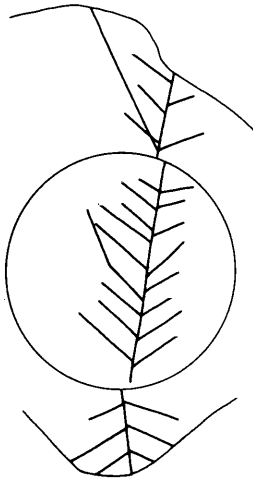
2A-53



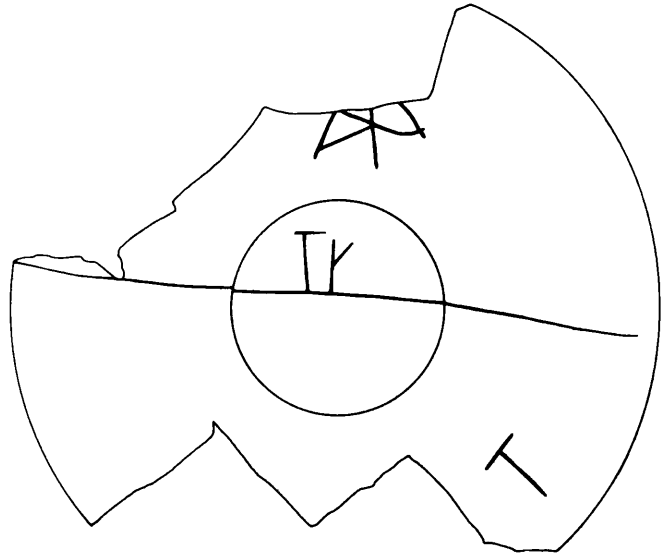
2A-54

FIGURE 10

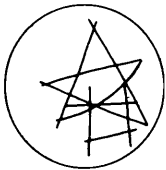
2A NONALPHABETIC OWNERS' MARKS



2A-55



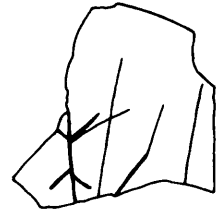
2A-59



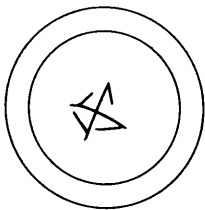
2A-56



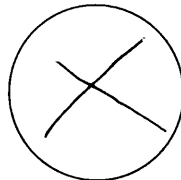
2A-60



2A-63



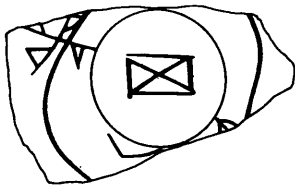
2A-57



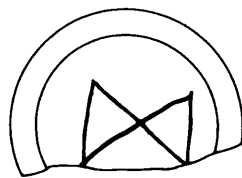
2A-61



2A-64



2A-58

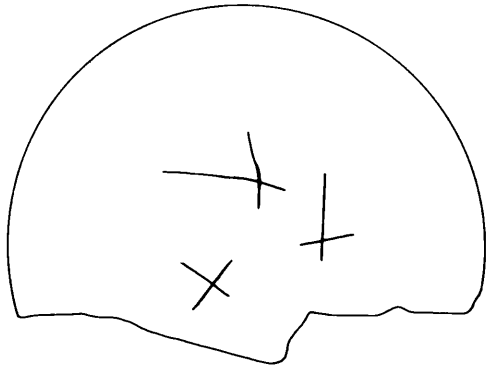


2A-62

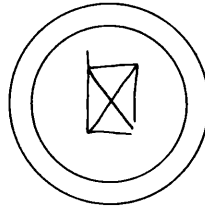


2A-65





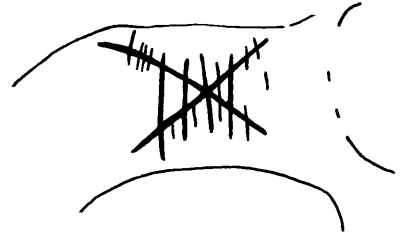
2A-66 *int.*



2A-68



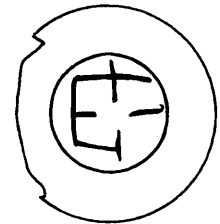
2A-70



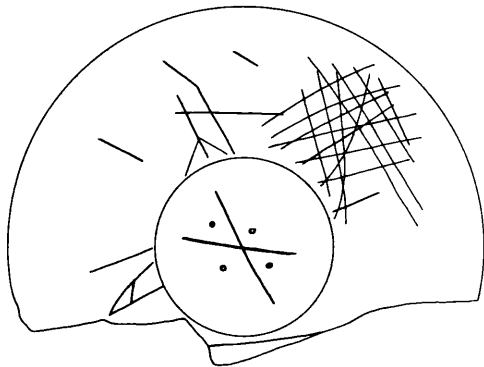
2A-71



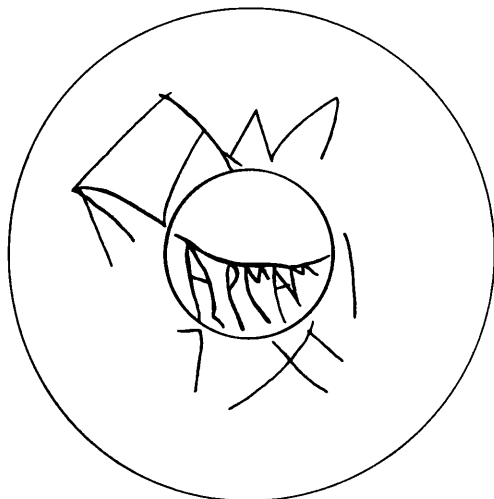
2A-69



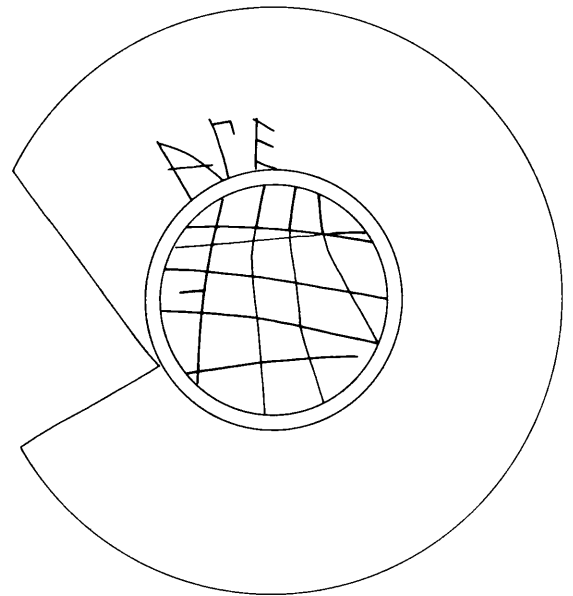
2A-72



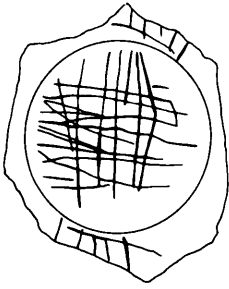
2A-66 *ext.*



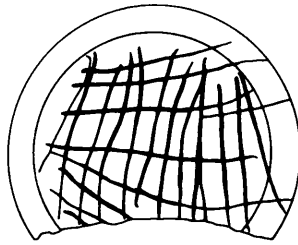
2A-67



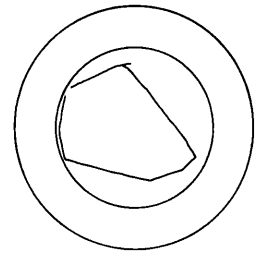
2A-73



2A-74



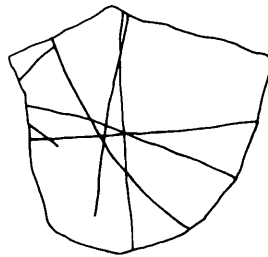
2A-79



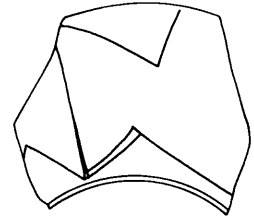
2A-82



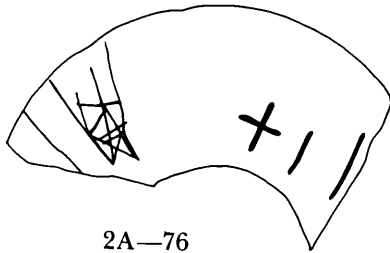
2A-75



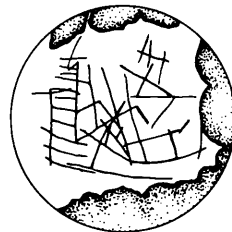
2A-80



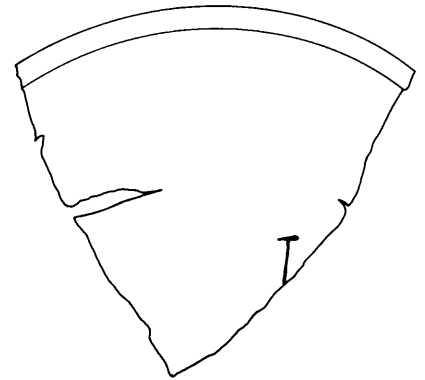
2A-83



2A-76



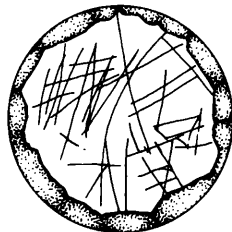
2A-81 *int.*



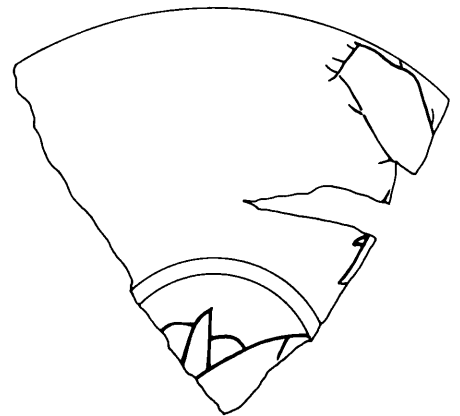
2A-84 *int.*



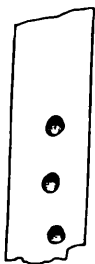
2A-77



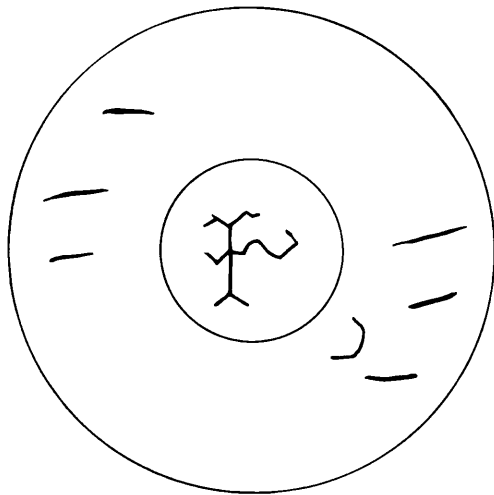
2A-81 *ext.*



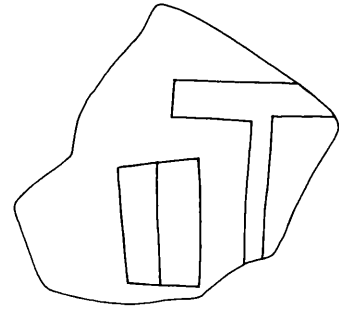
2A-84 *ext.*



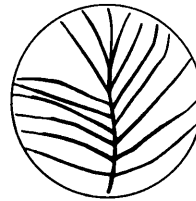
2A-78



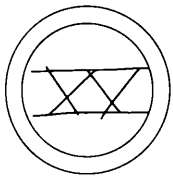
2A-85



2A-90



2A-91



2A-86



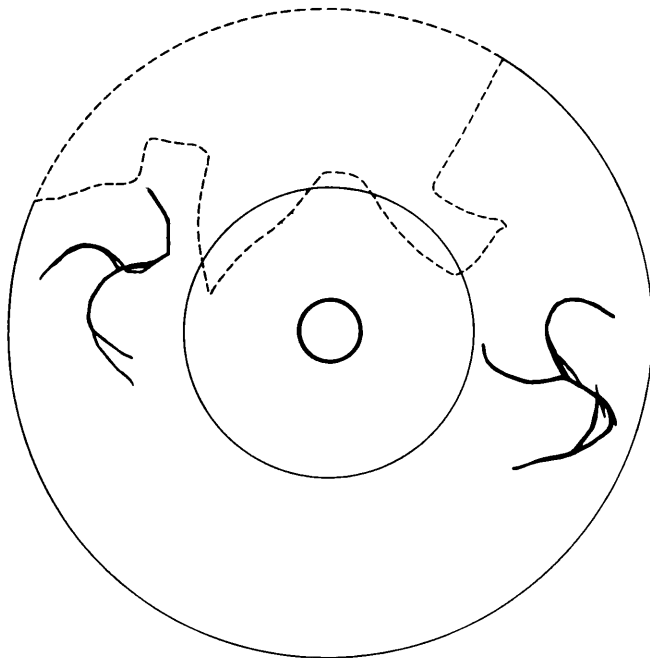
2A-87



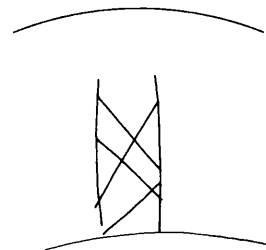
2A-88



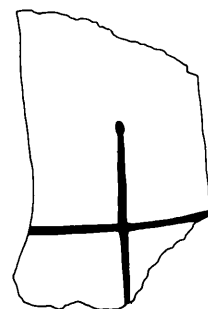
2A-92



2A-89



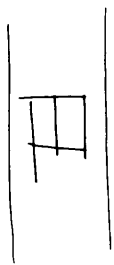
2A-93



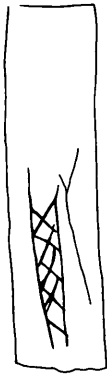
2A-94

FIGURE 14

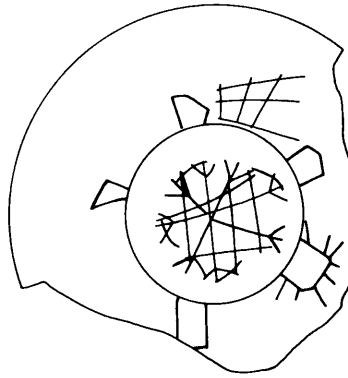
2A NONALPHABETIC OWNERS' MARKS



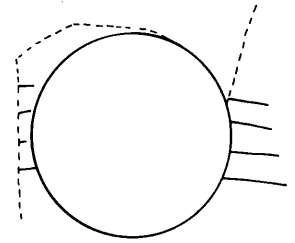
2A-95



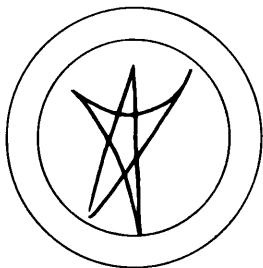
2A-96



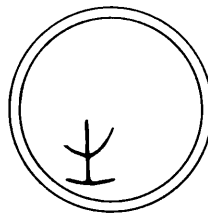
2A-100



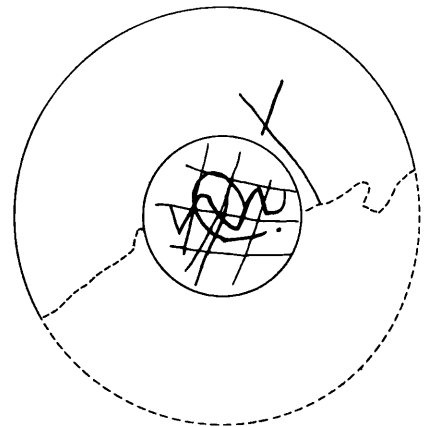
2A-103



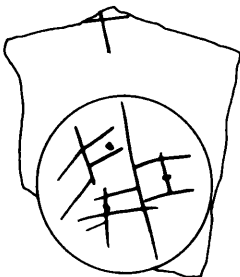
2A-97



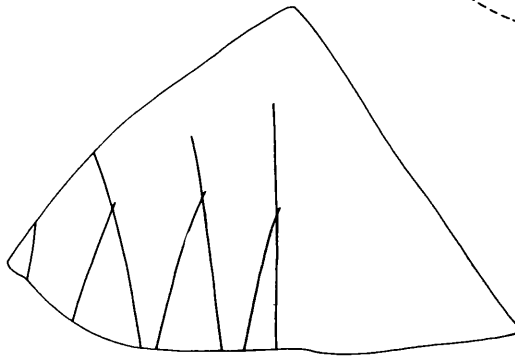
2A-101



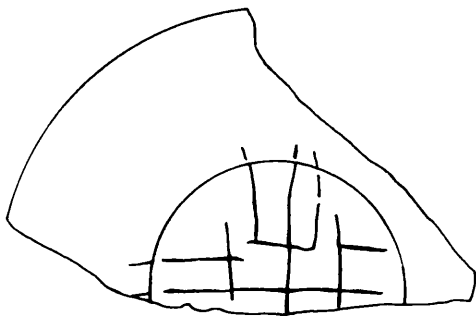
2A-104



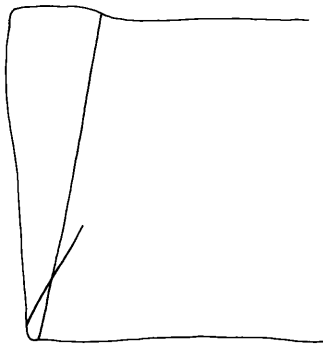
2A-98



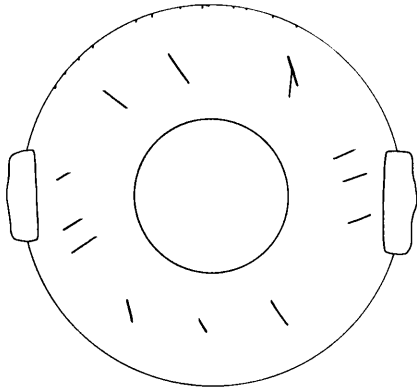
2A-102



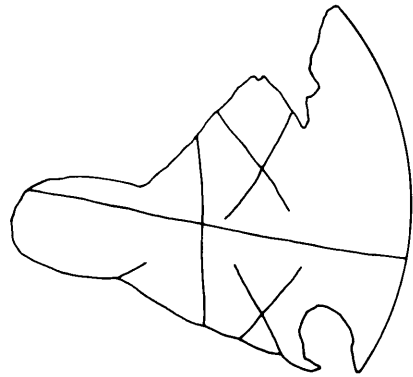
2A-99



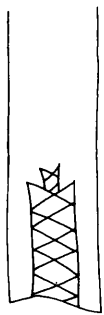
2A-102



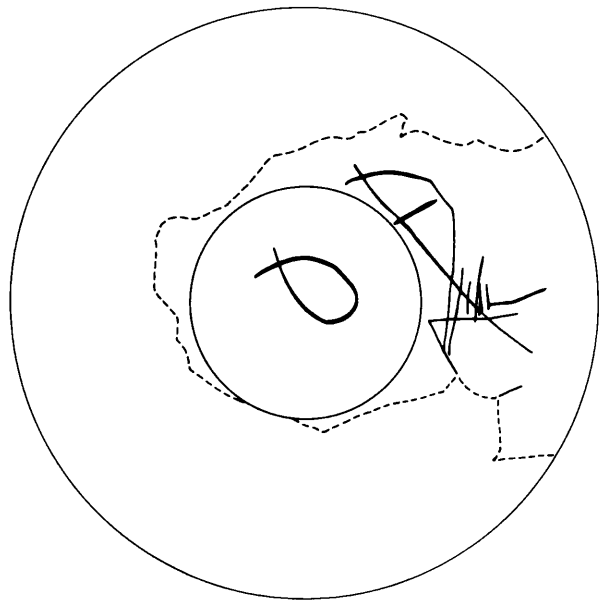
2A-105



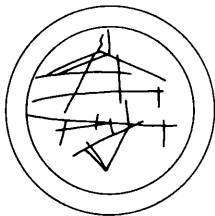
2A-109 *int.*



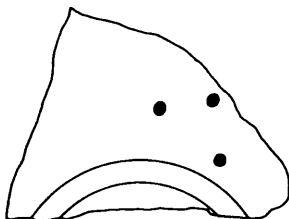
2A-106



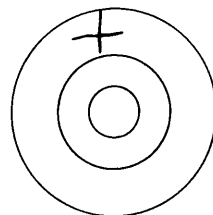
2A-109 *ext.*



2A-107



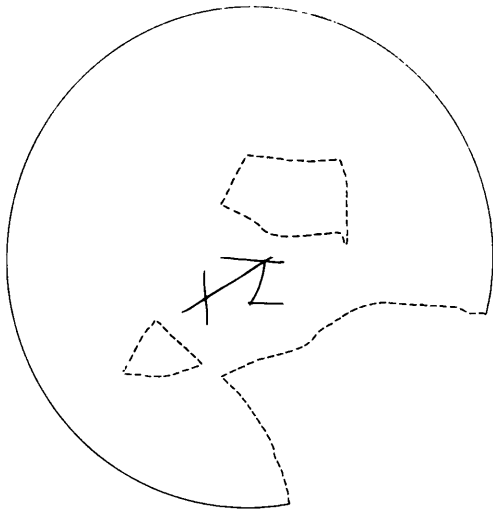
2A-108



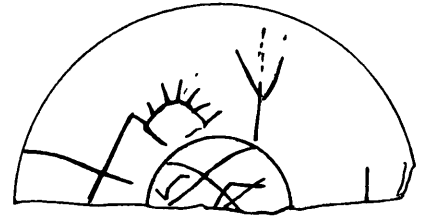
2A-110

FIGURE 16

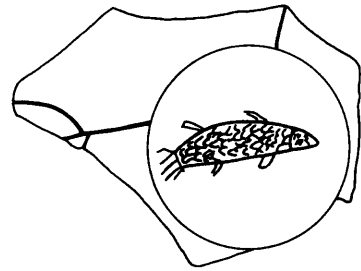
2A NONALPHABETIC OWNERS' MARKS



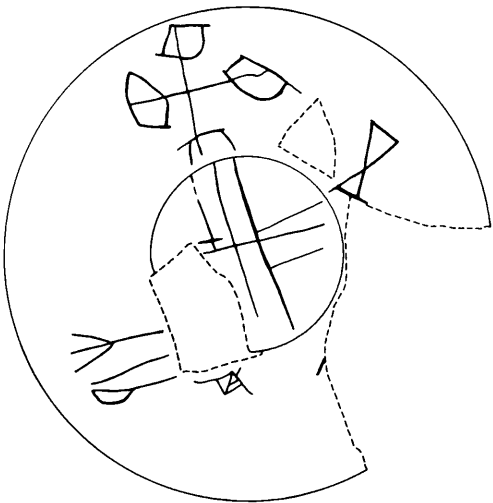
2A-111 *int.*



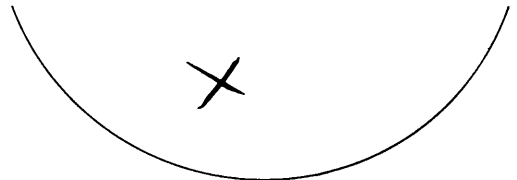
2A-113



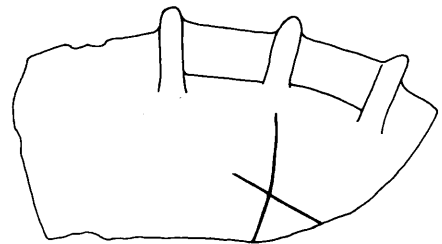
2A-114



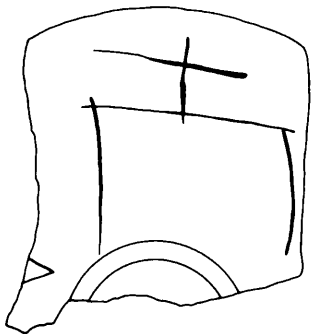
2A-111 *ext.*



2A-115



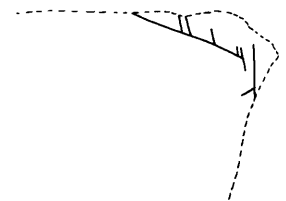
2A-116



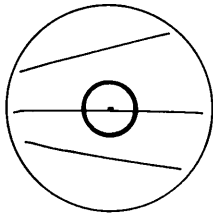
2A-112



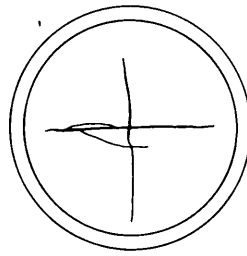
2A-117 *int.*



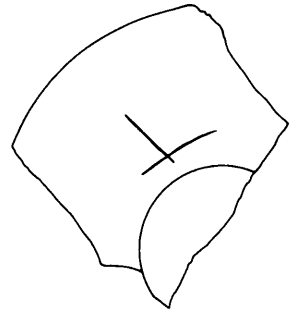
2A-117 *ext.*



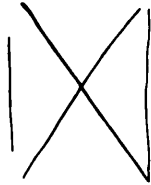
2A-118



2A-123



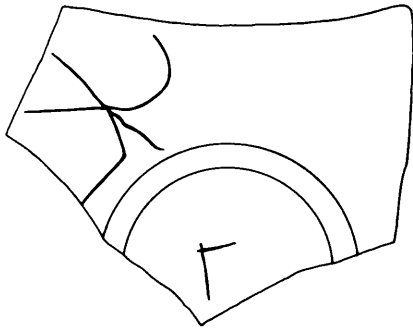
2A-124 ext.



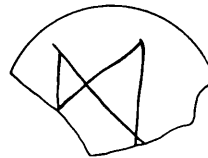
2A-119



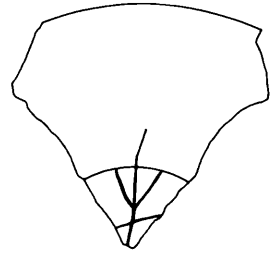
2A-124 int.



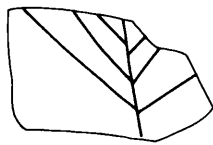
2A-120



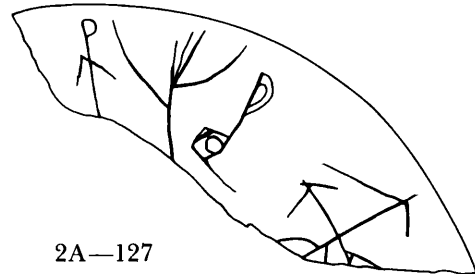
2A-125



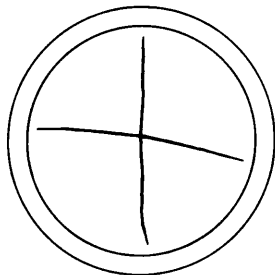
2A-126



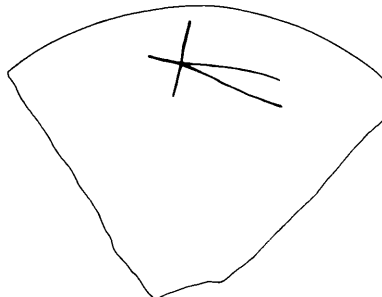
2A-121



2A-127



2A-122



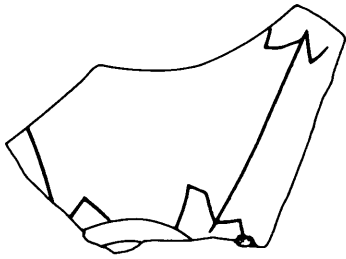
2A-128



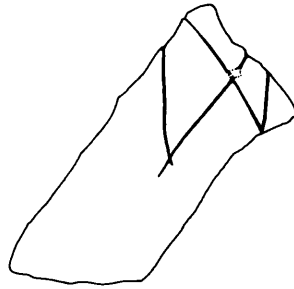
2A-129

FIGURE 18

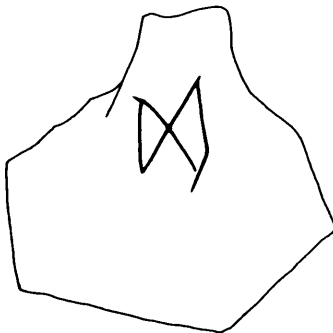
2A NONALPHABETIC OWNERS' MARKS



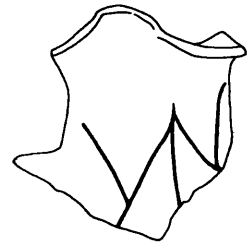
2A-130



2A-134



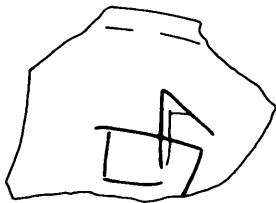
2A-131



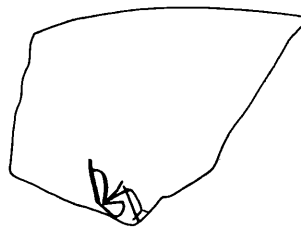
2A-135



2A-136



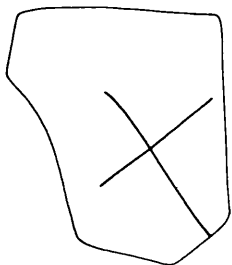
2A-132



2A-137



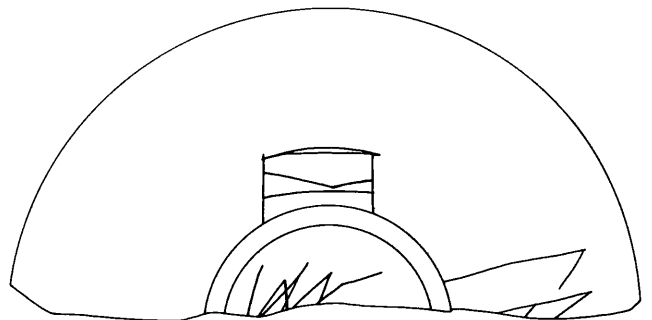
2A-138



2A-133 *int.*

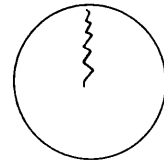
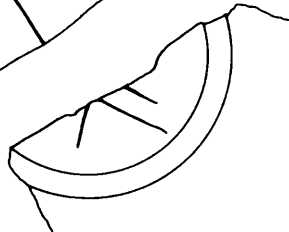
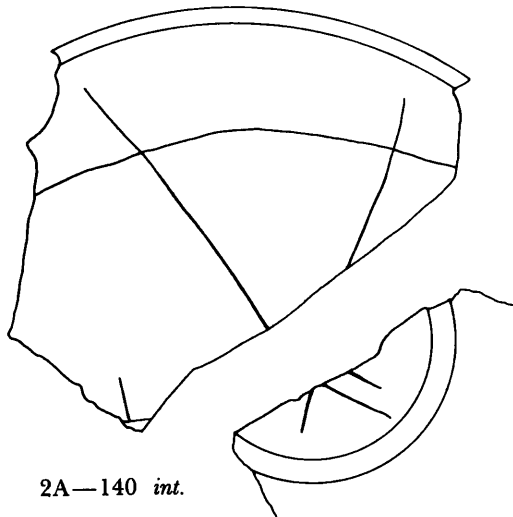


2A-133 *ext.*

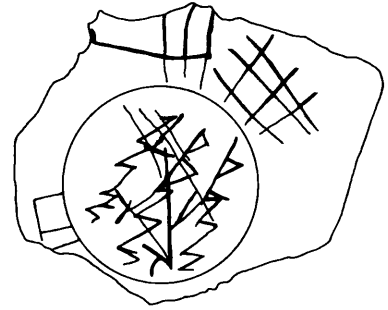


2A-139

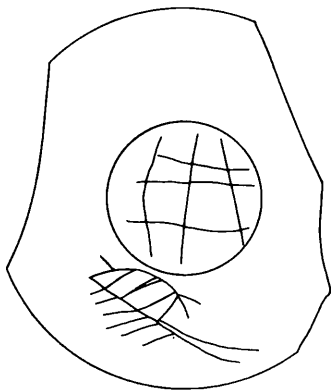




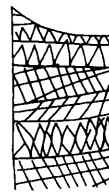
2A-143



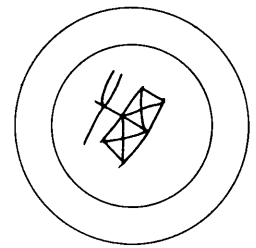
2A-144



2A-141



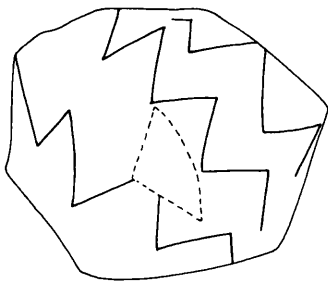
2A-145



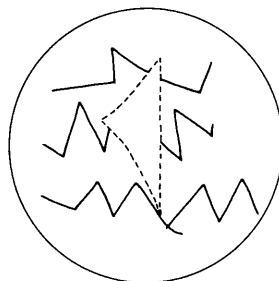
2A-146



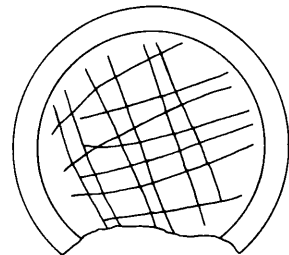
2A-147



2A-142 *int.*



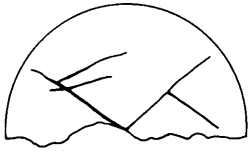
2A-142 *ext.*



2A-148

FIGURE 20

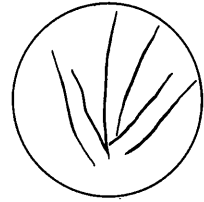
2A NONALPHABETIC OWNERS' MARKS



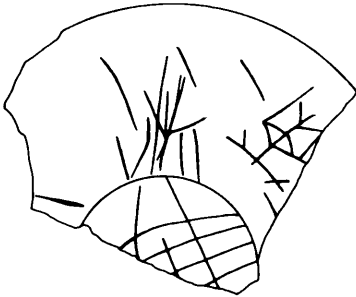
2A-149



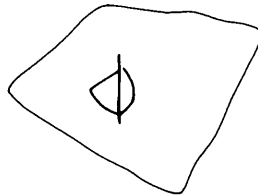
2A-153



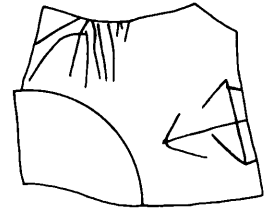
2A-157



2A-150



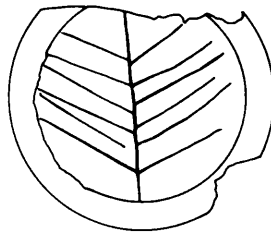
2A-154



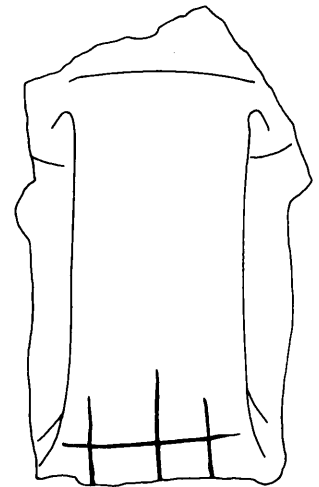
2A-158



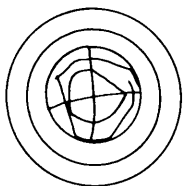
2A-151



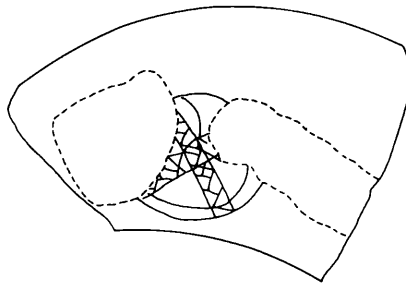
2A-155



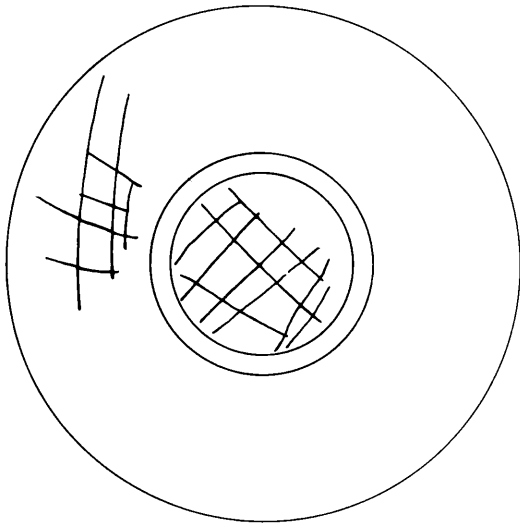
2A-159



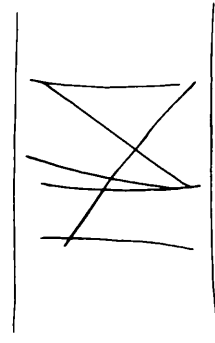
2A-152



2A-156



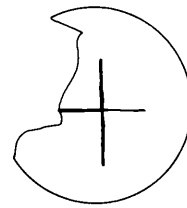
2A-160



2A-162



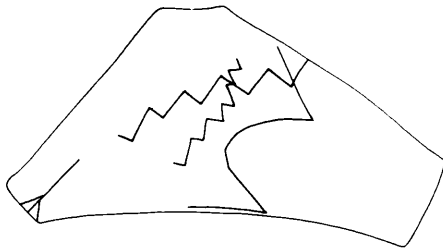
2A-163



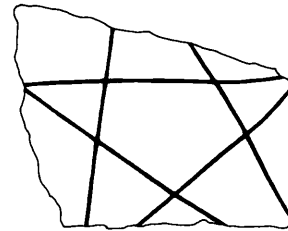
2A-164



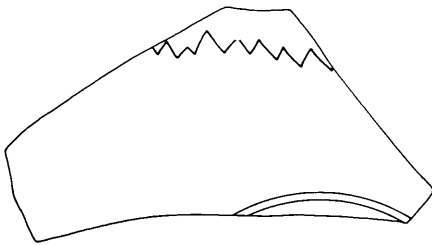
2A-165



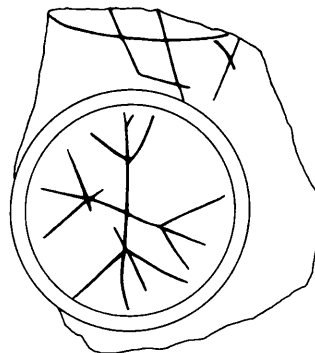
2A-161 *int.*



2A-166



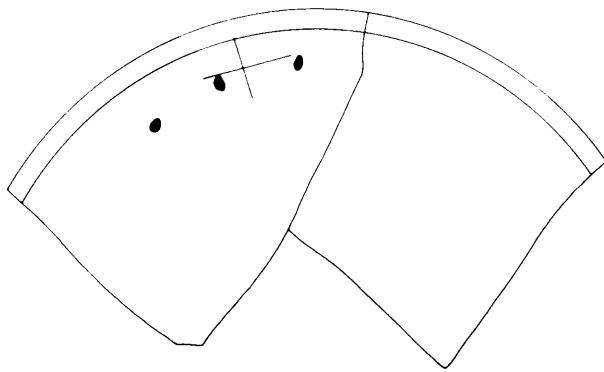
2A-161 *ext.*



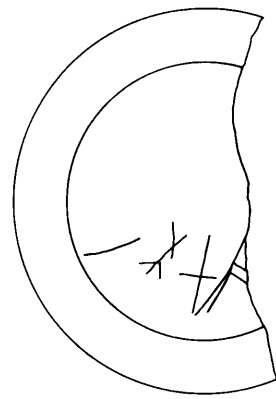
2A-167



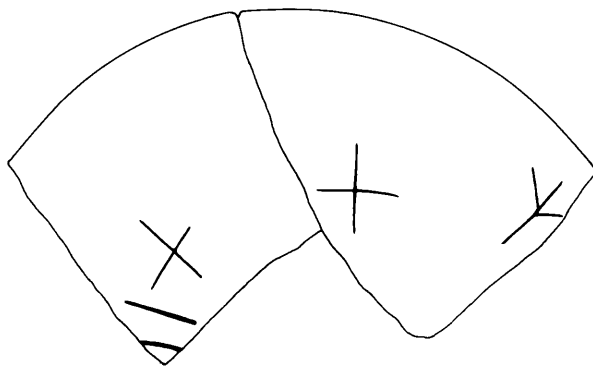
2A-168



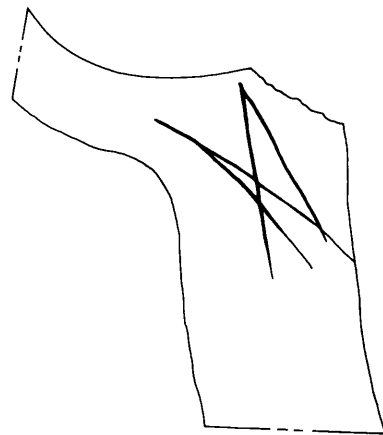
2A-169 *int.*



2A-171



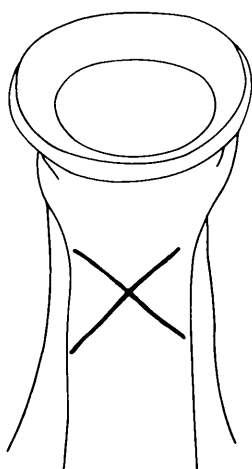
2A-169 *ext.*



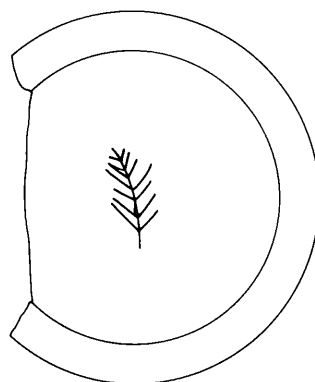
2A-172



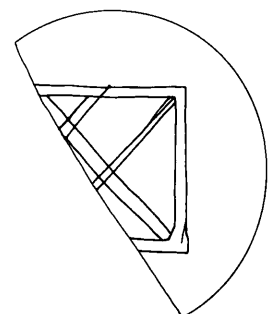
2A-173



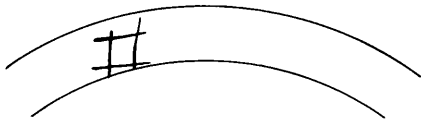
2A-170



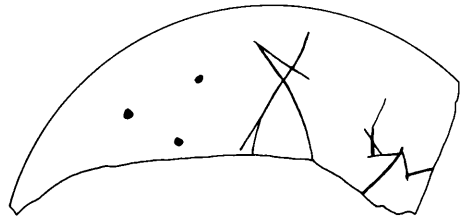
2A-174



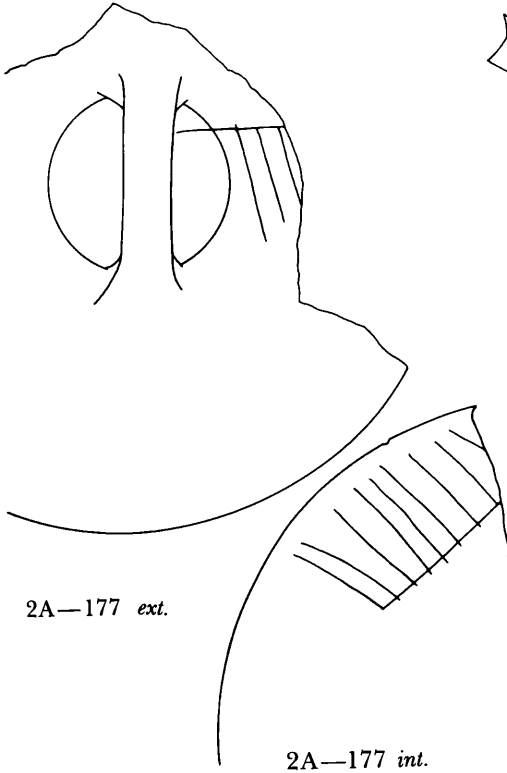
2A-175



2A-176

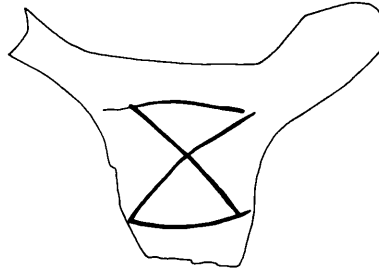


2A-179

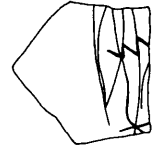


2A-177 ext.

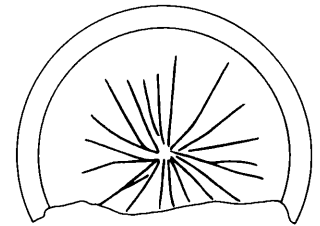
2A-177 int.



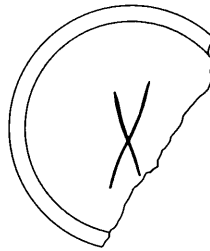
2A-180



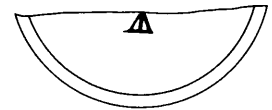
2A-182



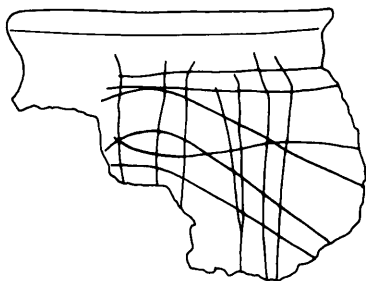
2A-183



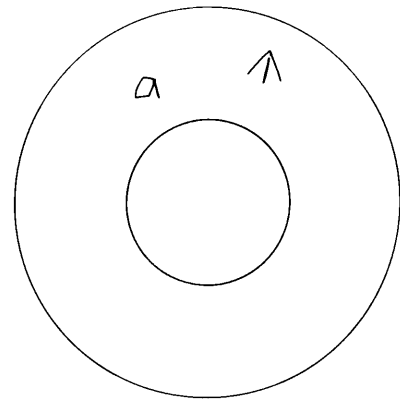
2A-181



2A-184



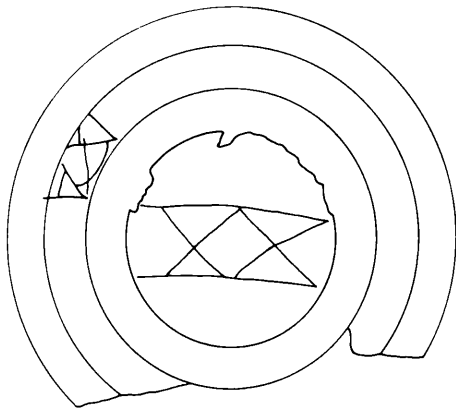
2A-178



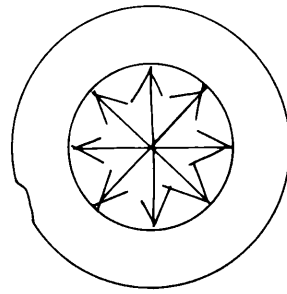
2A-185

FIGURE 24

2A NONALPHABETIC OWNERS' MARKS



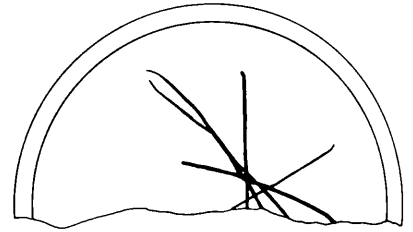
2A-186



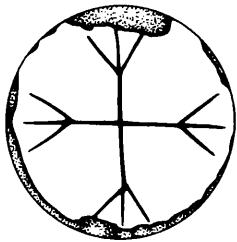
2A-191



2A-195



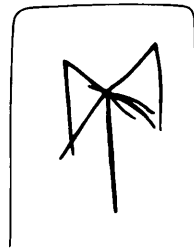
2A-196



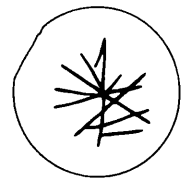
2A-187



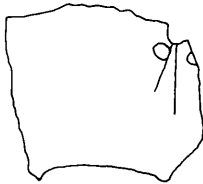
2A-188



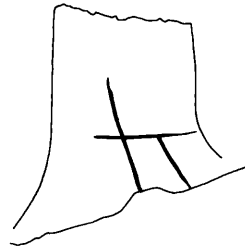
2A-192



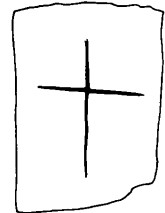
2A-197



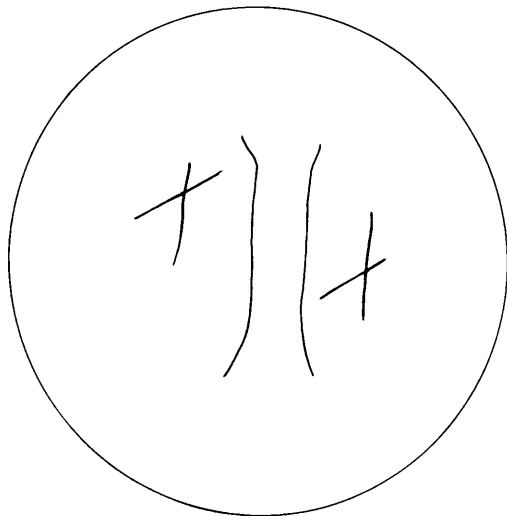
2A-189



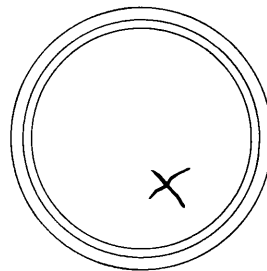
2A-193



2A-198



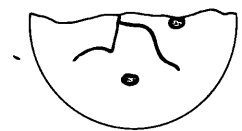
2A-190



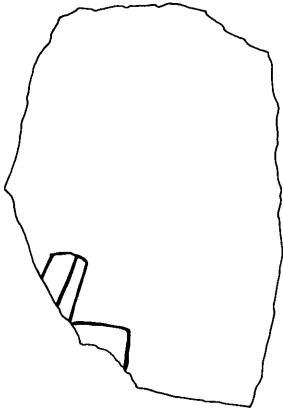
2A-194



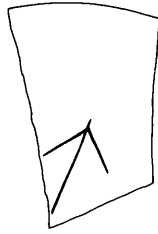
2A-199



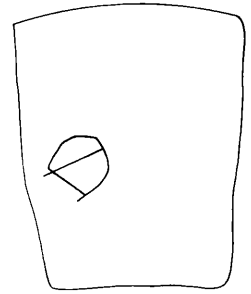
2A-200



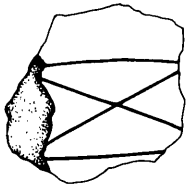
2A-201



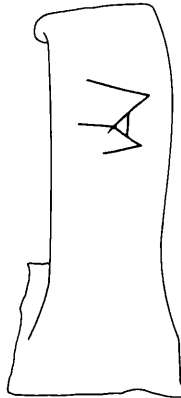
2A-206



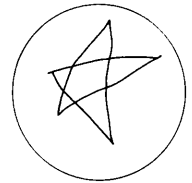
2A-209



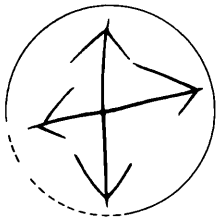
2A-202



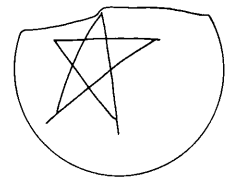
2A-207



2A-210



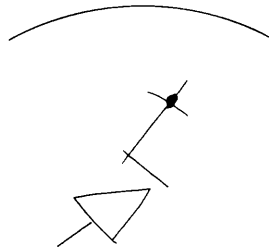
2A-203



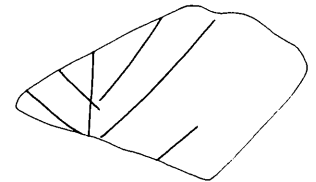
2A-211



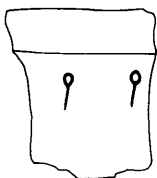
2A-204



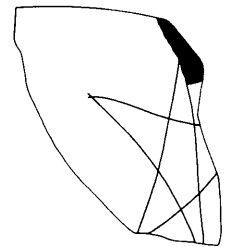
2A-208



2A-212



2A-205



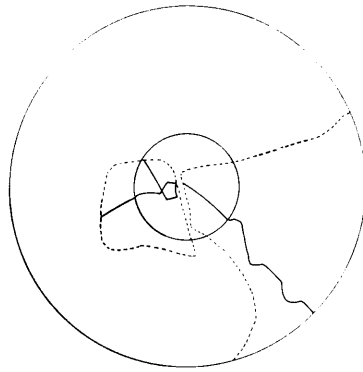
2A-213

FIGURE 26

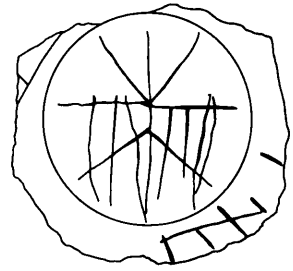
2A NONALPHABETIC OWNERS' MARKS



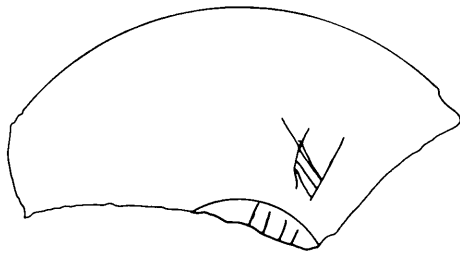
2A-214 *int.*



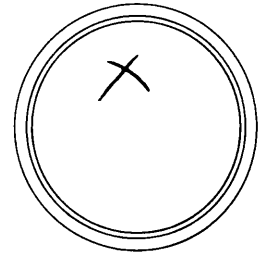
2A-214 *ext.*



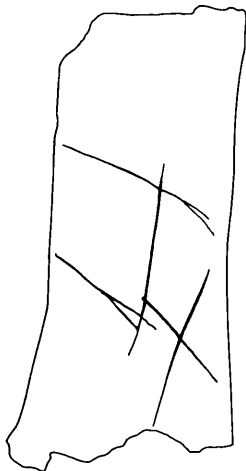
2A-220



2A-215



2A-221



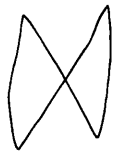
2A-216



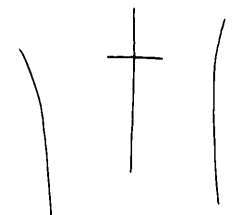
2A-217



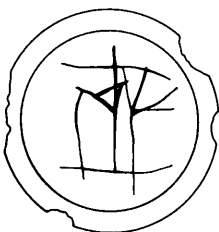
2A-222



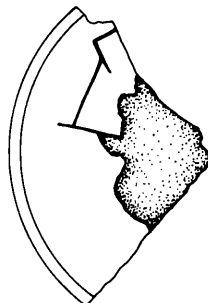
2A-223



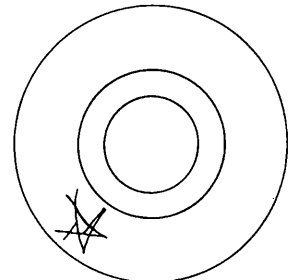
2A-224



2A-218

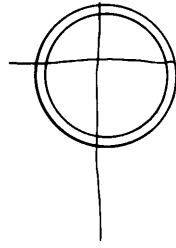
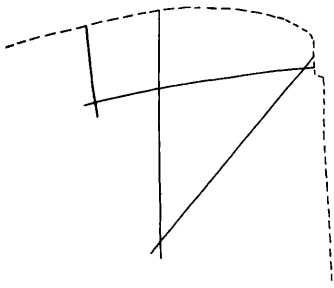


2A-219

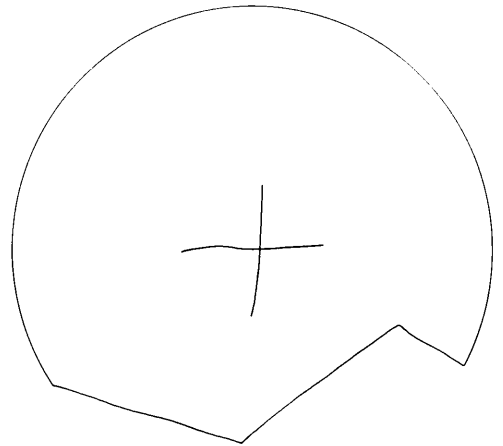
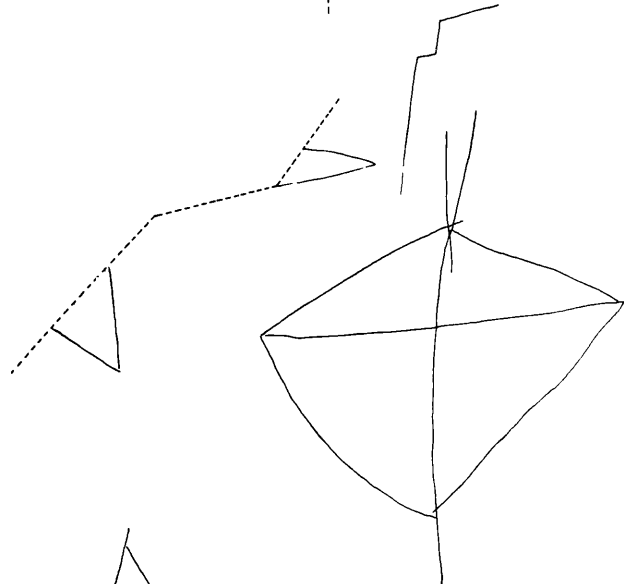


2A-225

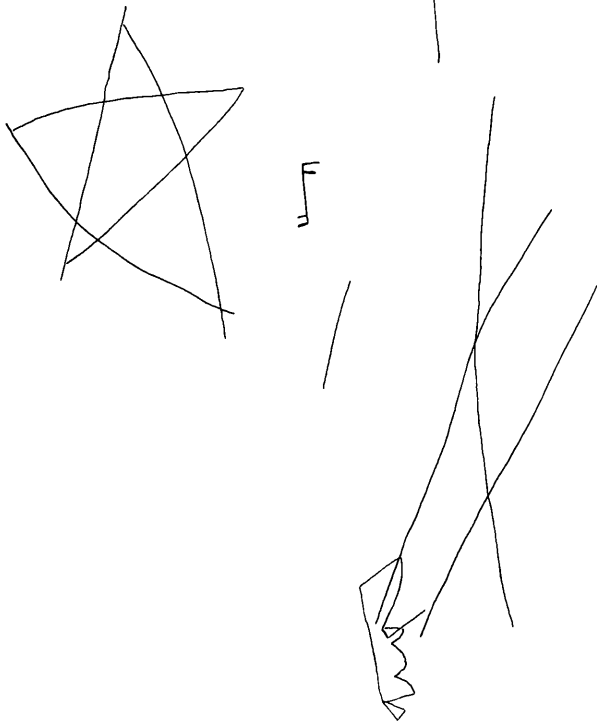




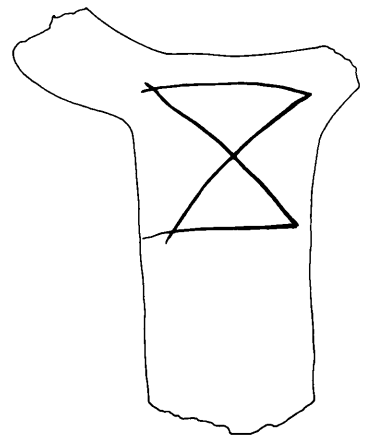
2A-227



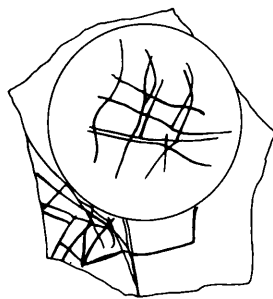
2A-228



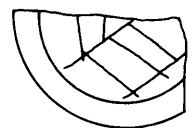
2A-226



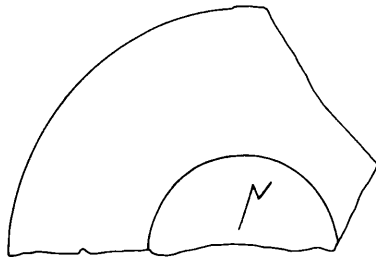
2A-229



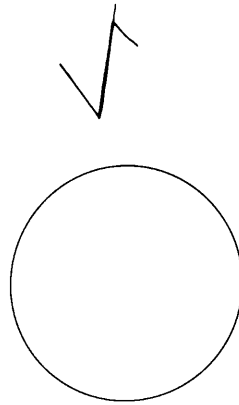
2A-230



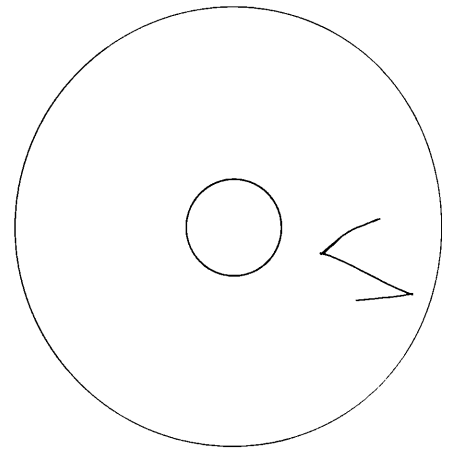
2A-231



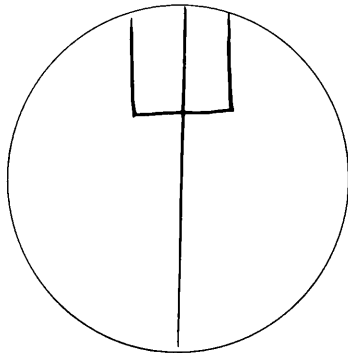
2B-1



2B-2



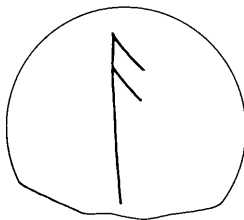
2B-7



2B-3



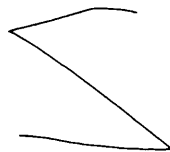
2B-4



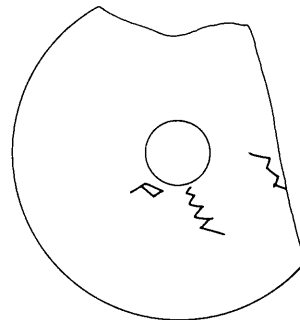
2B-5



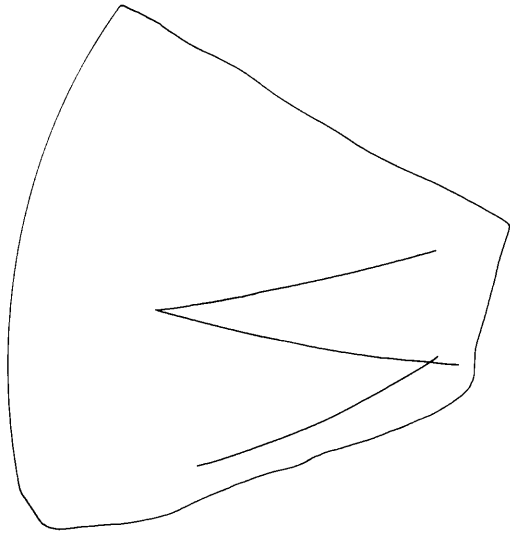
2B-6



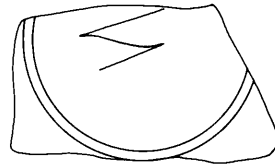
2B-8



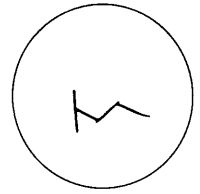
2B-9



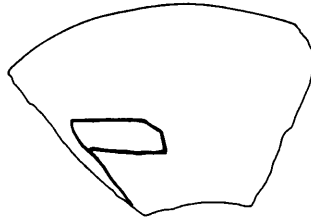
2B-10



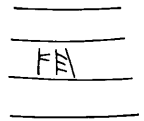
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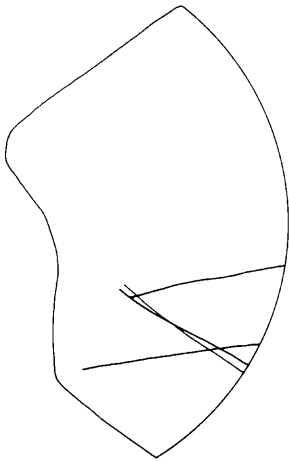
2B-18



2B-15



2B-19



2B-11



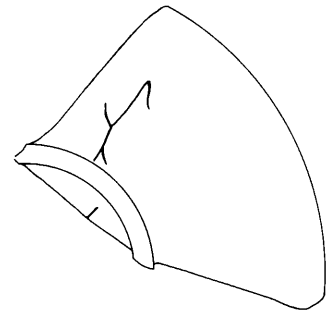
2B-16



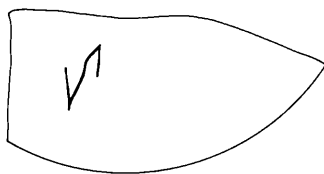
2B-12



2B-17



2B-20



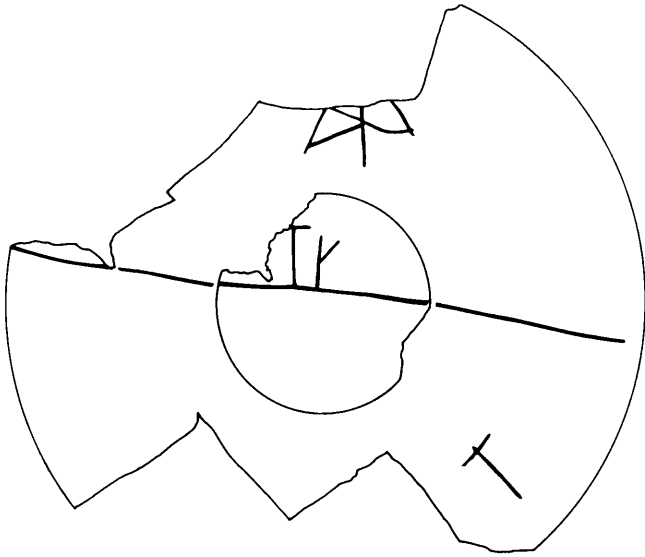
2B-13



2B-21

FIGURE 30

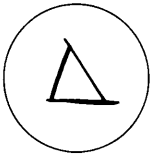
2B LETTER FORMS



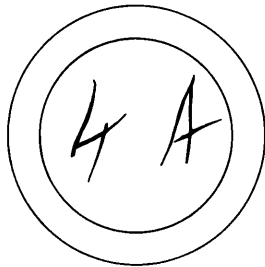
2B-22



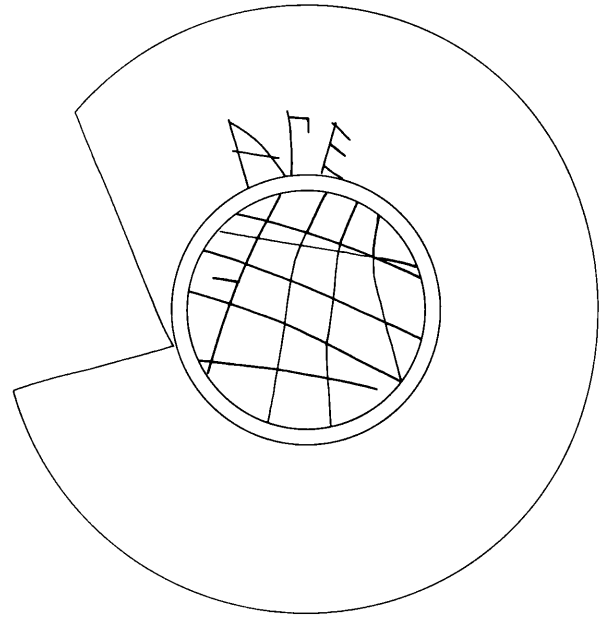
2B-26



2B-23



2B-24



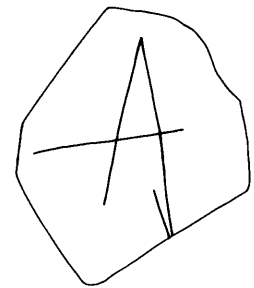
2B-27



2B-25



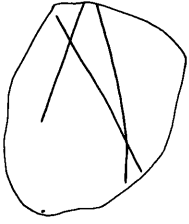
2B-28



2B-29



2B-30



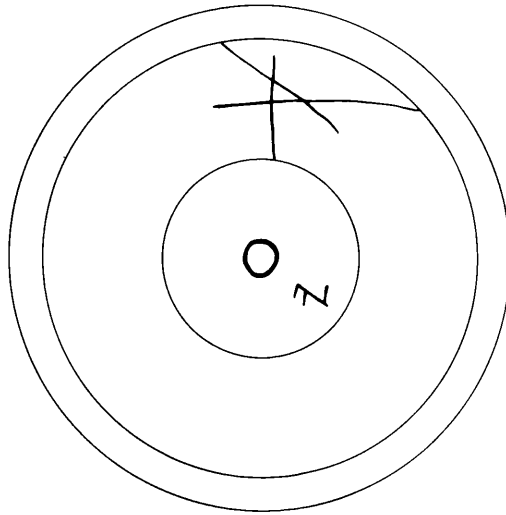
2B-31



2B-32



2B-33



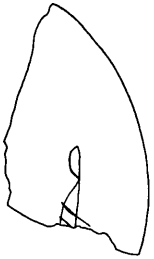
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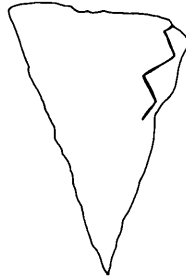
2B-41



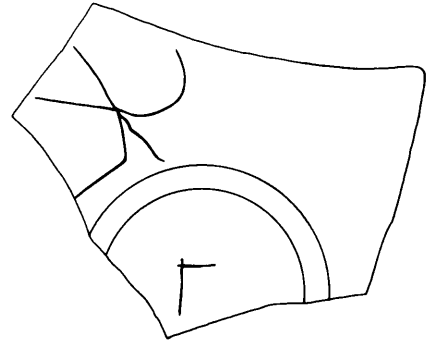
2B-42



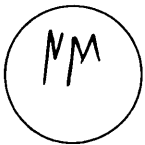
2B-34



2B-38



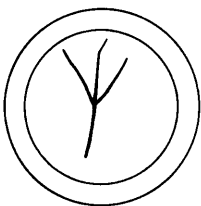
2B-43



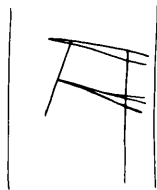
2B-35



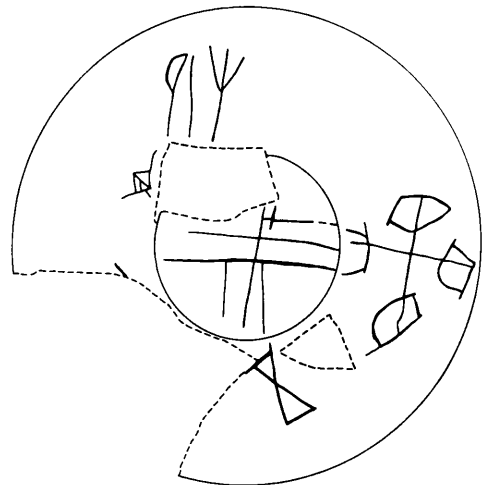
2B-39



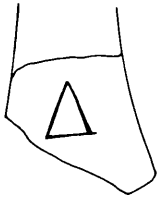
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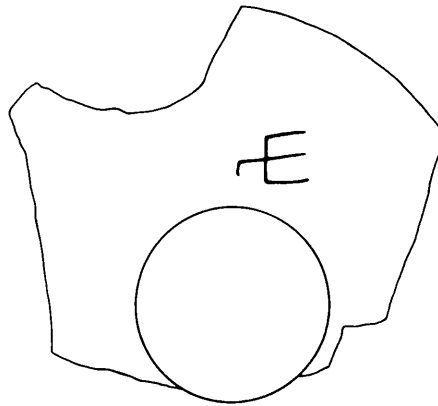
2B-40



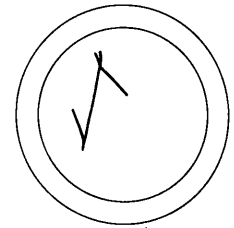
2B-44



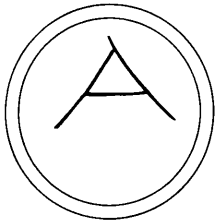
2B-45



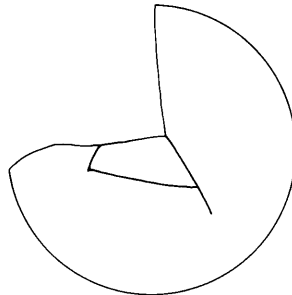
2B-49



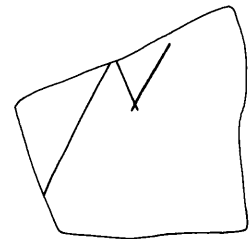
2B-53



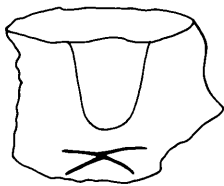
2B-46



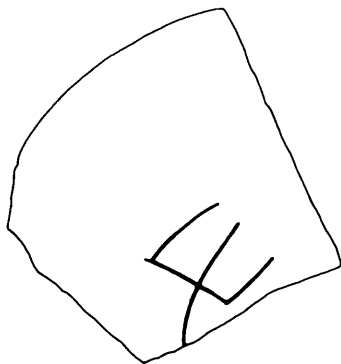
2B-50



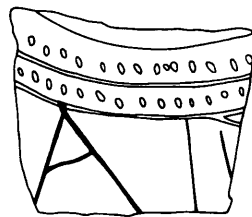
2B-54



2B-47



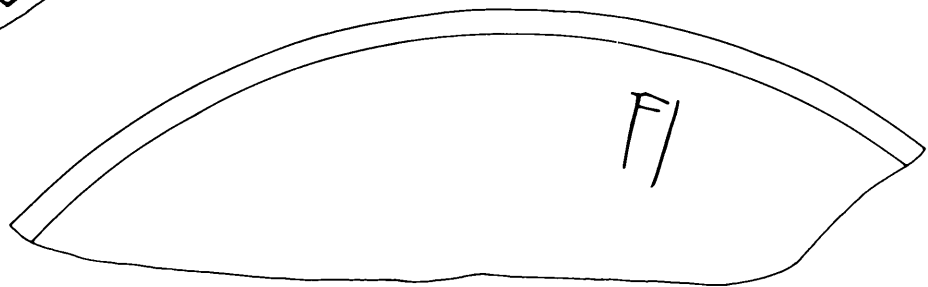
2B-48



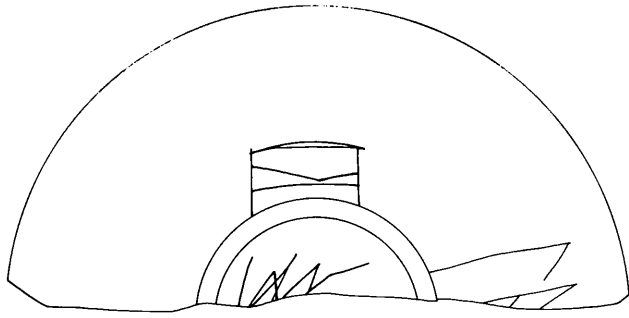
2B-51



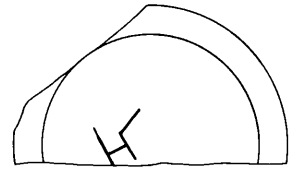
2B-55



2B-52



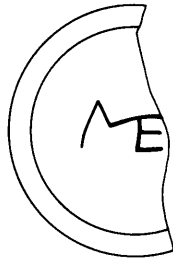
2B-56



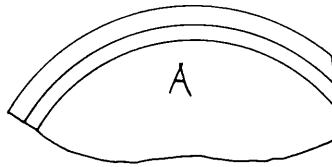
2B-67



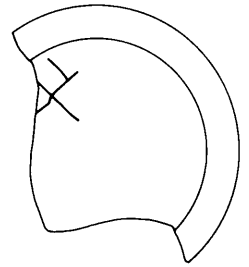
2B-57



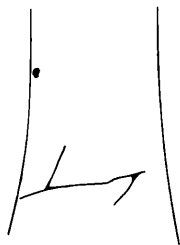
2B-60



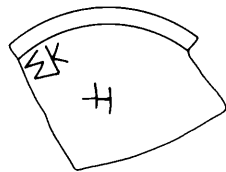
2B-64



2B-68



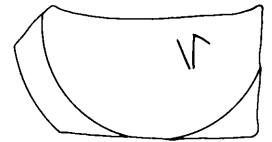
2B-58



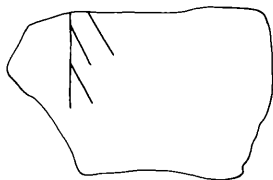
2B-61



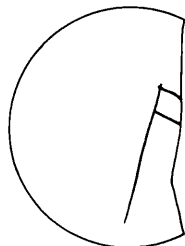
2B-65



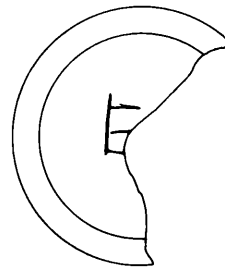
2B-69



2B-59



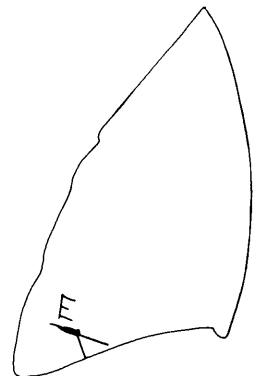
2B-62



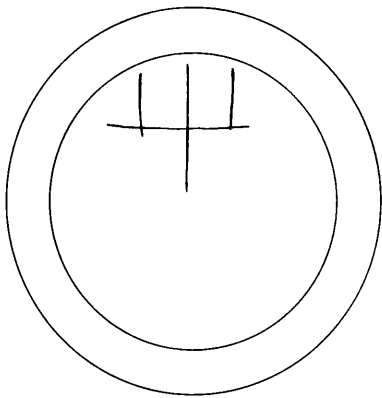
2B-66



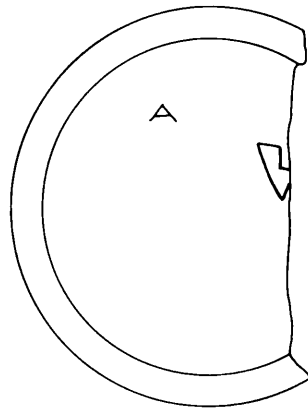
2B-63



2B-70



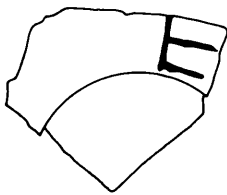
2B-71



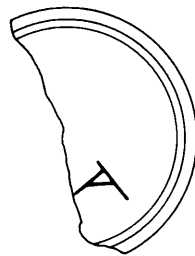
2B-76



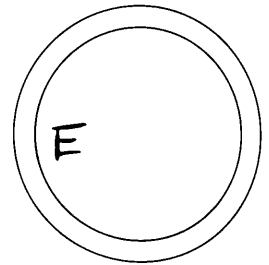
2B-80



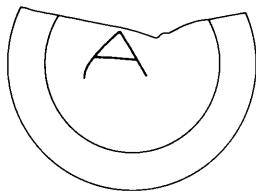
2B-72



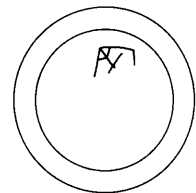
2B-77



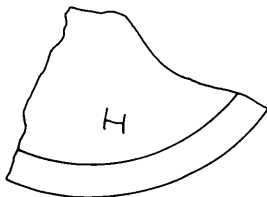
2B-81



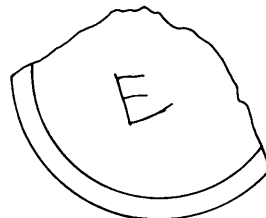
2B-73



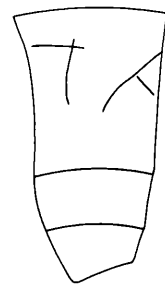
2B-82



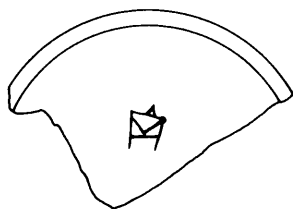
2B-74



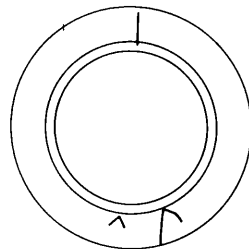
2B-78



2B-83



2B-75



2B-79

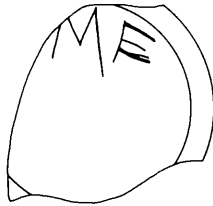


2B-84

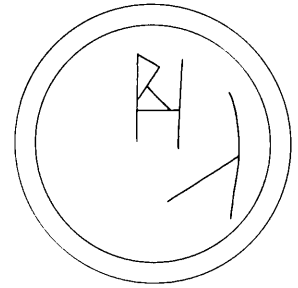




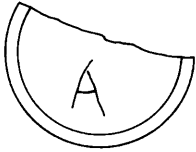
2B-85



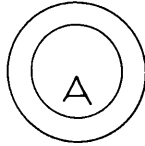
2B-91



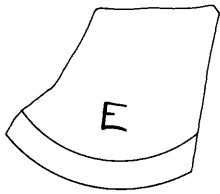
2B-97



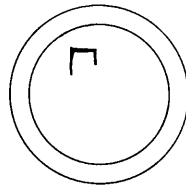
2B-86



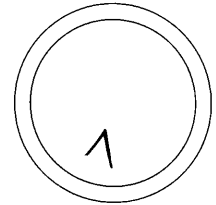
2B-92



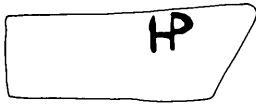
2B-87



2B-93



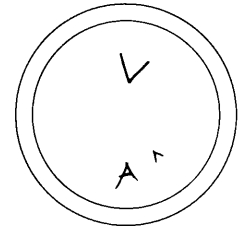
2B-98



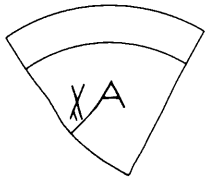
2B-88



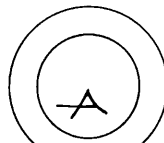
2B-94



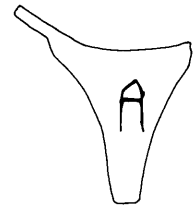
2B-99



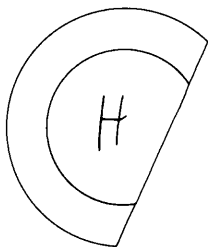
2B-89



2B-95



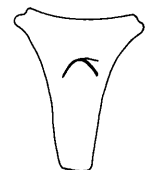
2B-100



2B-90



2B-96



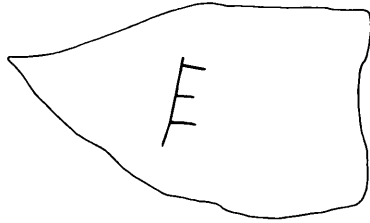
2B-100

FIGURE 36

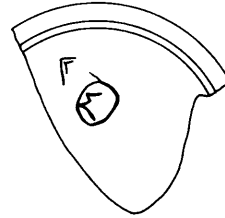
2B LETTER FORMS



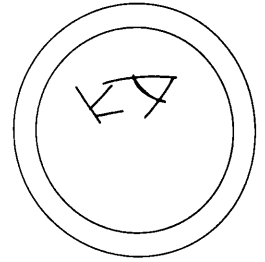
2B-101



2B-106



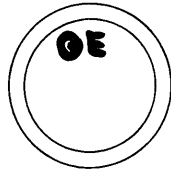
2B-112



2B-116



2B-102 *int.*



2B-107



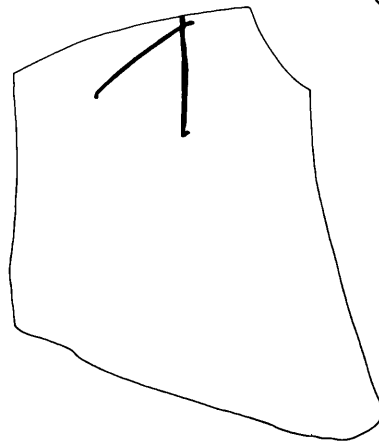
2B-117



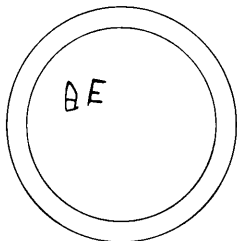
2B-102 *ext.*



2B-108



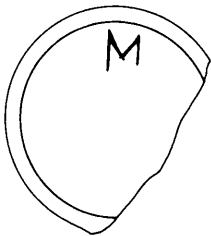
2B-113



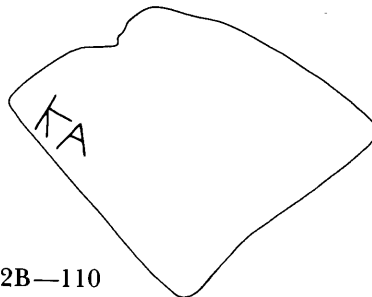
2B-103



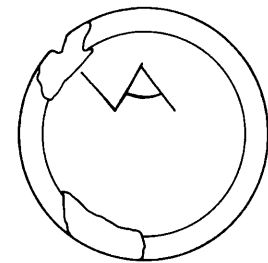
2B-109



2B-104



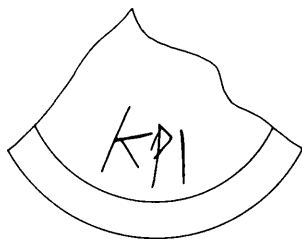
2B-110



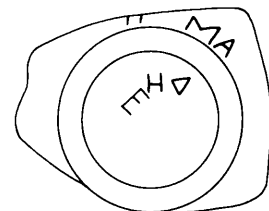
2B-114



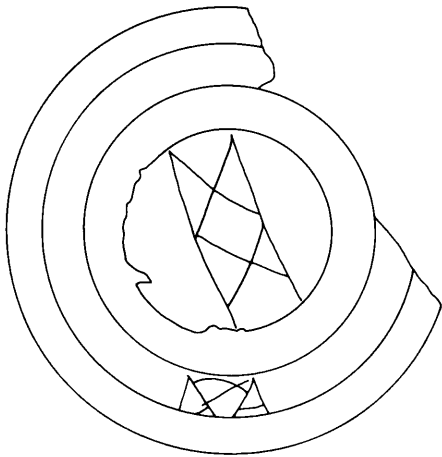
2B-105



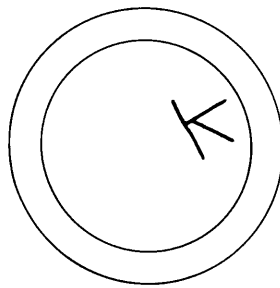
2B-111



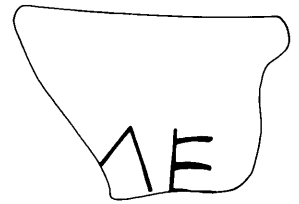
2B-115



2B-118



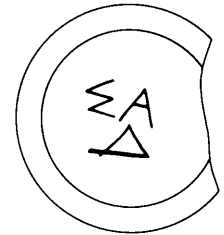
2B-121



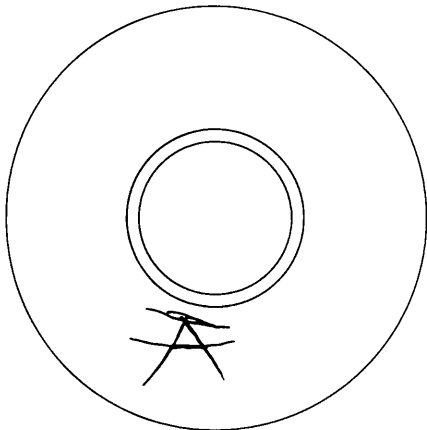
2B-126



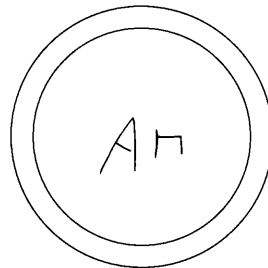
2B-122



2B-127



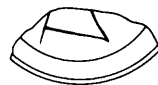
2B-119



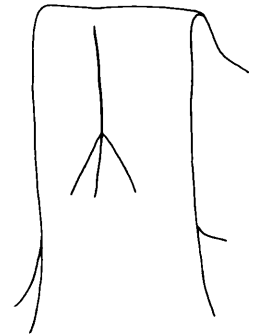
2B-123



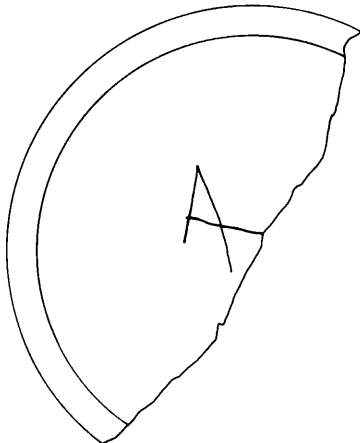
2B-128



2B-124



2B-129



2B-120



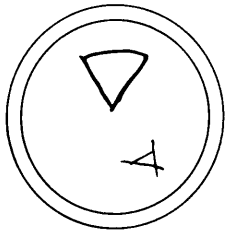
2B-125



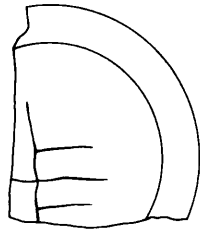
2B-130

FIGURE 38

2B LETTER FORMS



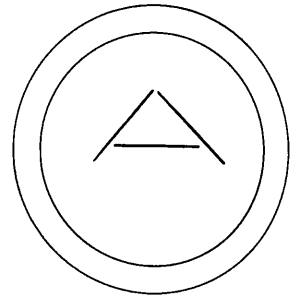
2B-131



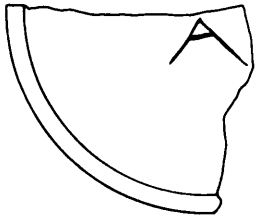
2B-136



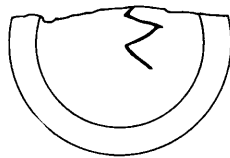
2B-141



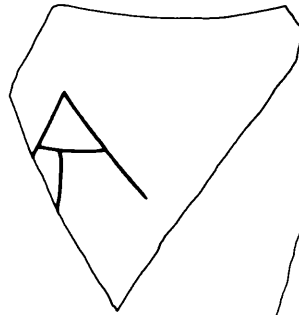
2B-145



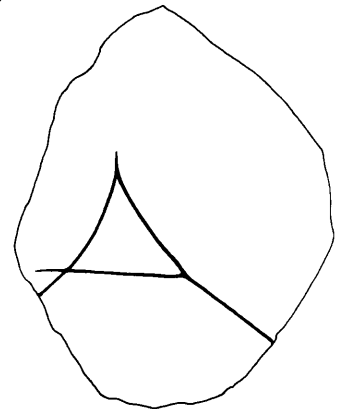
2B-132



2B-137



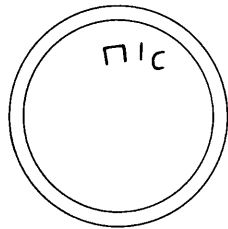
2B-142



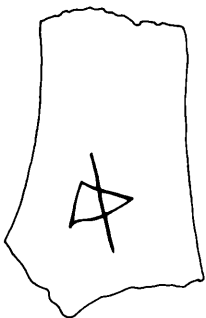
2B-146



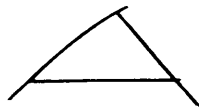
2B-133



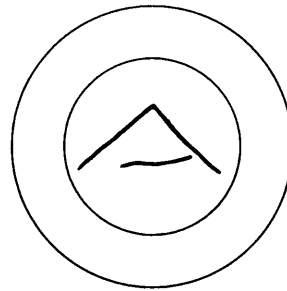
2B-138



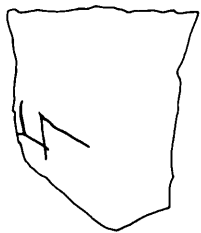
2B-134



2B-139



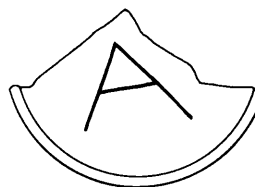
2B-143



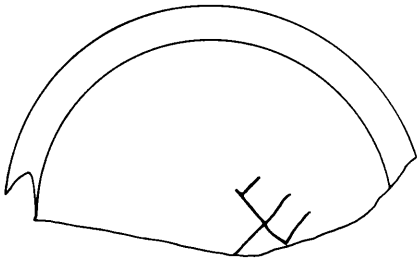
2B-135



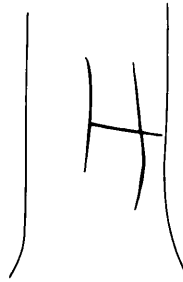
2B-140



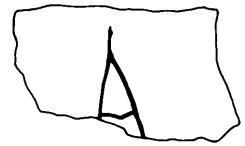
2B-144



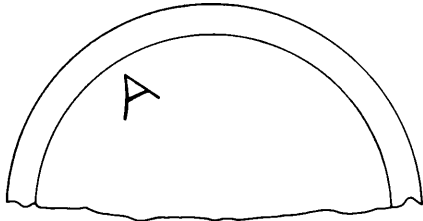
2B-147



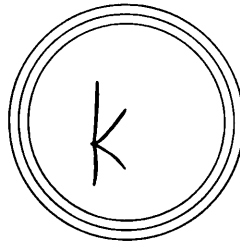
2B-153



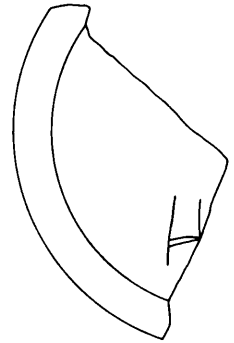
2B-157



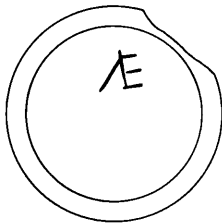
2B-148



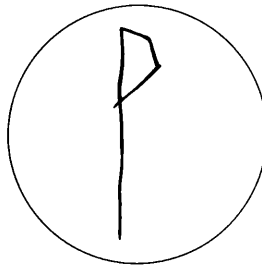
2B-154



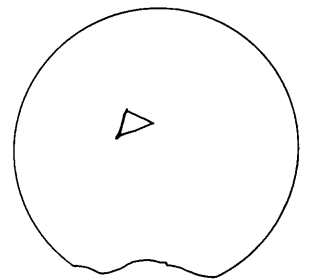
2B-158



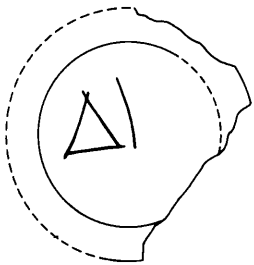
2B-149



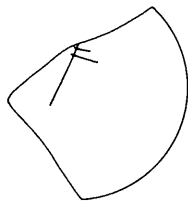
2B-155



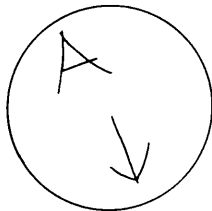
2B-159



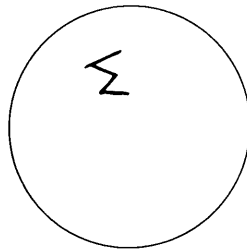
2B-150



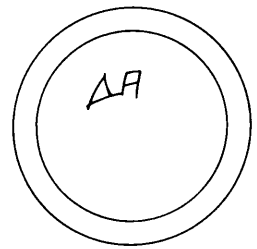
2B-151



2B-152



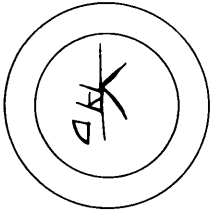
2B-156



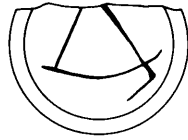
2B-160

FIGURE 40

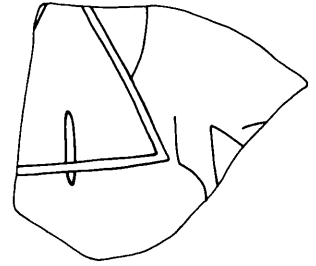
2B LETTER FORMS



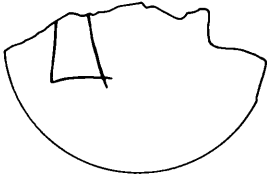
2B-161



2B-166



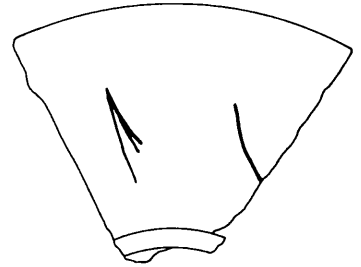
2B-172



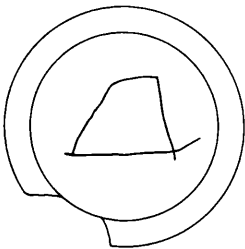
2B-162



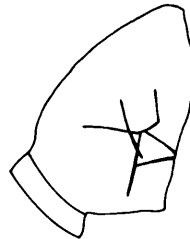
2B-167



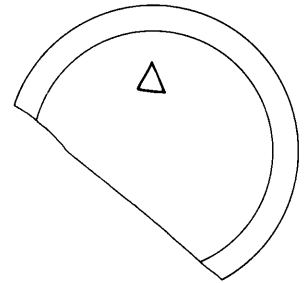
2B-173



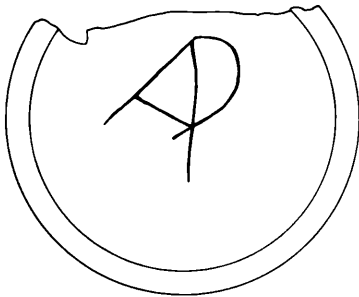
2B-163



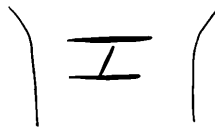
2B-168



2B-174

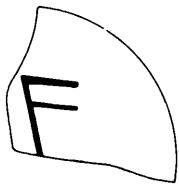


2B-164

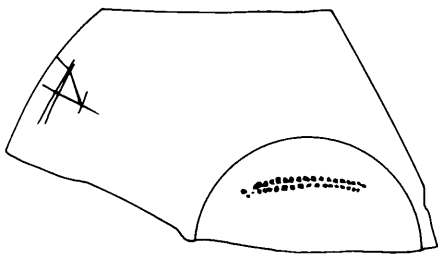


2B-169

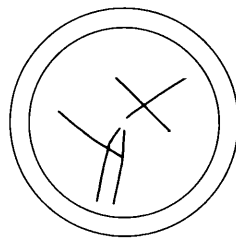
2B-174



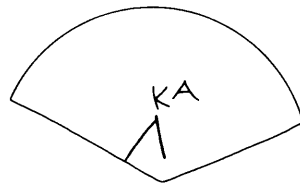
2B-175



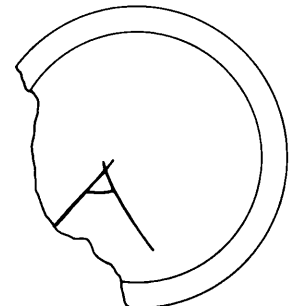
2B-165



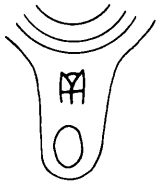
2B-170



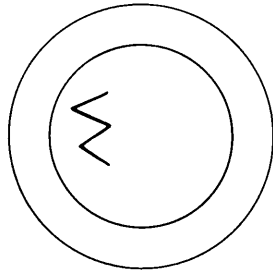
2B-171



2B-176



2B-177



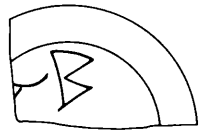
2B-178



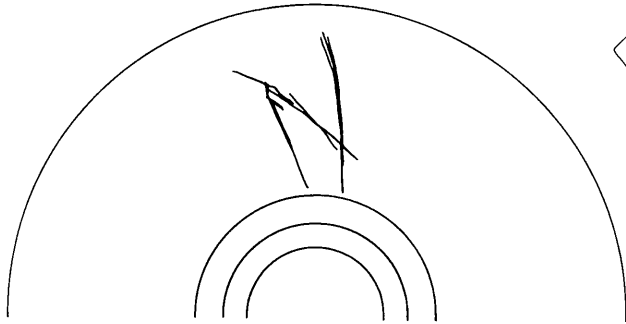
2B-183



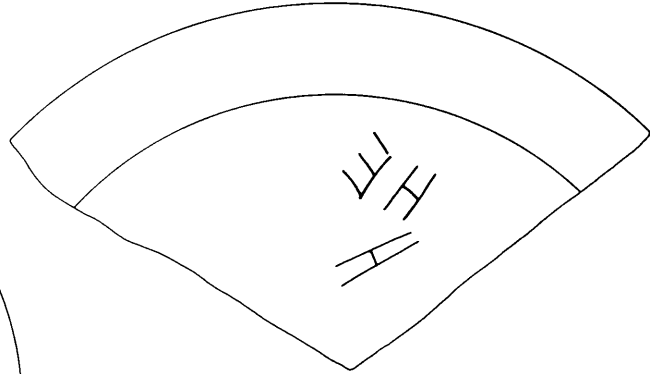
2B-184



2B-185



2B-179



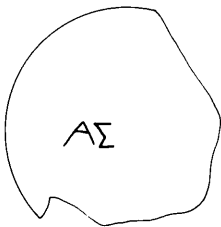
2B-186



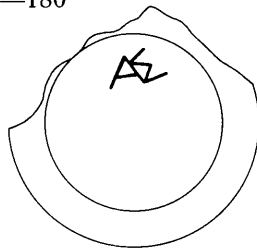
2B-180



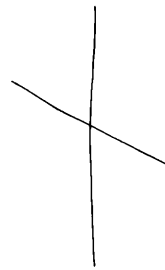
2B-187



2B-181 int.



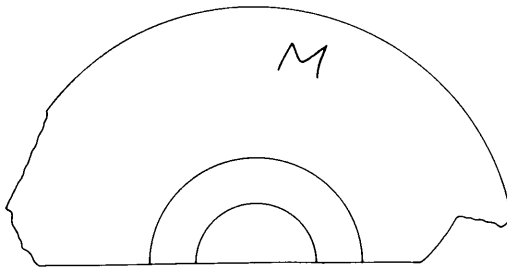
2B-181 ext.



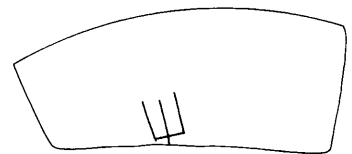
2B-188



2B-188



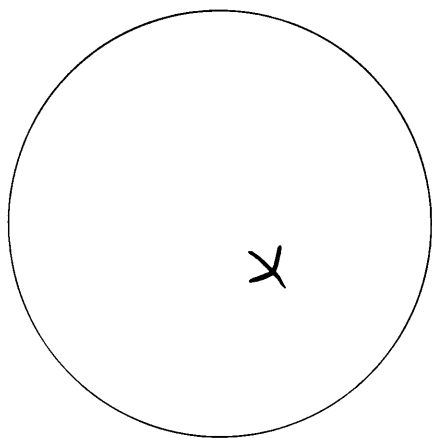
2B-182



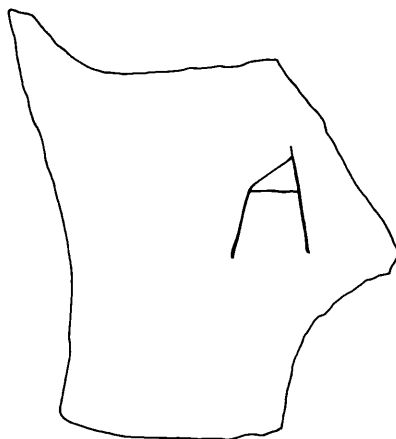
2B-189

FIGURE 42

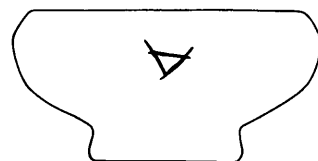
2B LETTER FORMS



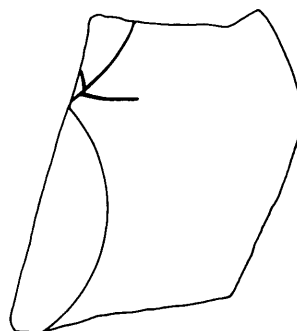
2B-190



2B-195



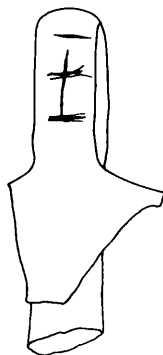
2B-199



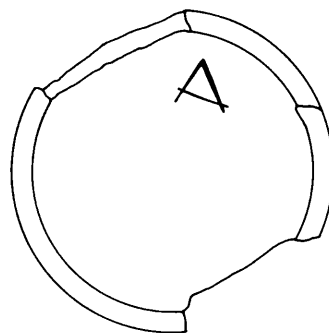
2B-200



2B-191



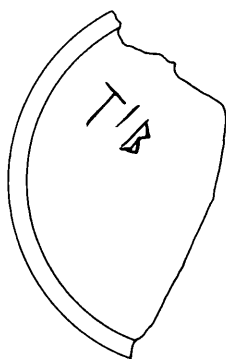
2B-196



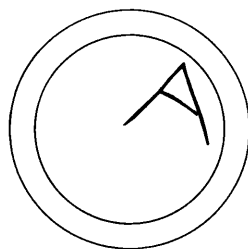
2B-201



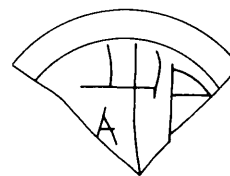
2B-192



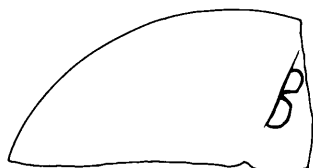
2B-193



2B-197



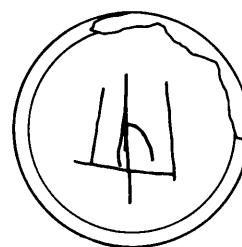
2B-202



2B-194

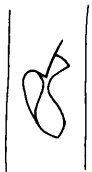


2B-198

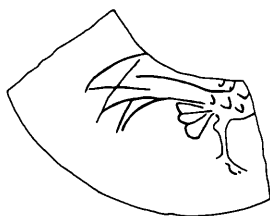


2B-203





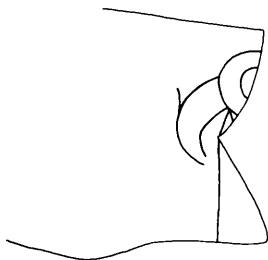
2C-1



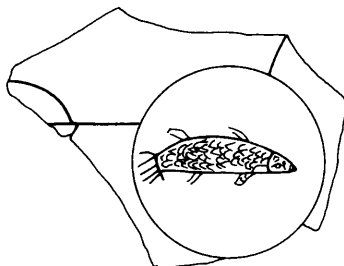
2C-6



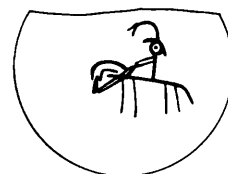
2C-10



2C-2



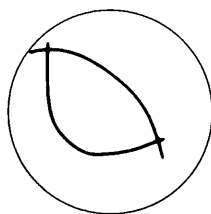
2C-7



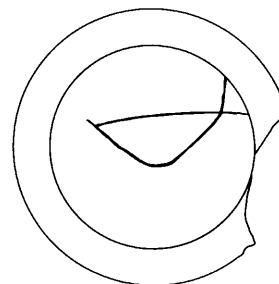
2C-11



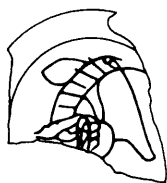
2C-3



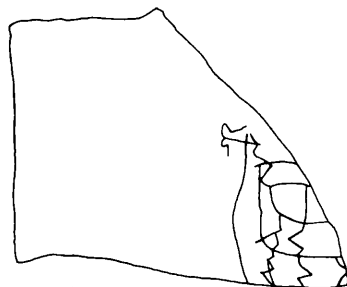
2C-8



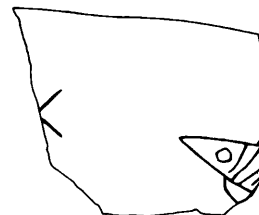
2C-12



2C-4



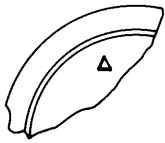
2C-9



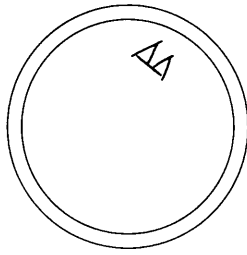
2C-13



2C-5



3A-1



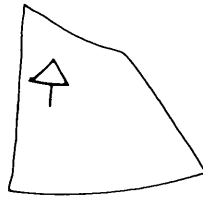
3A-6



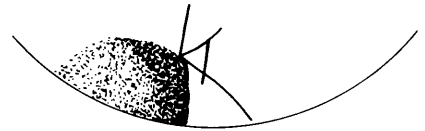
3A-11



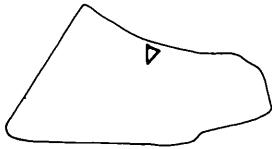
3A-2



3A-7



3A-12



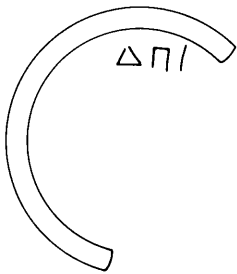
3A-3



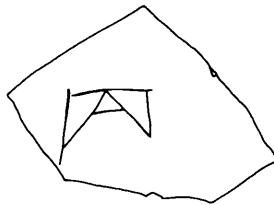
3A-8



3A-13



3A-4



3A-9



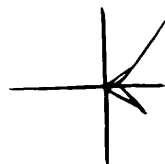
3A-14



3A-15



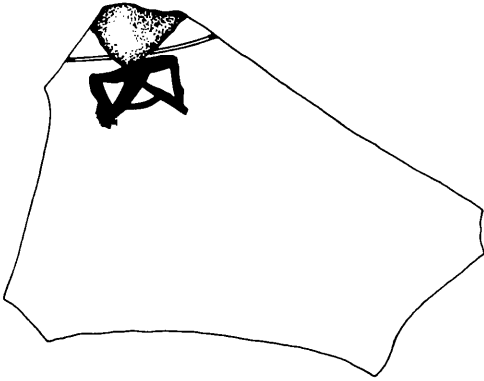
3A-5



3A-10



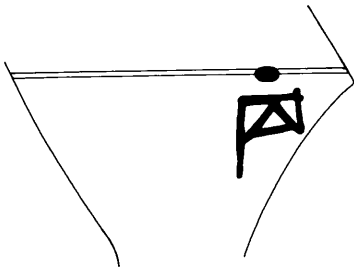
3A-15



3A-16



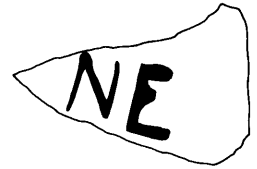
3A-20



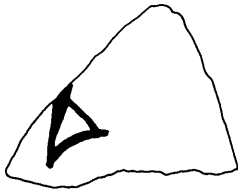
3A-17



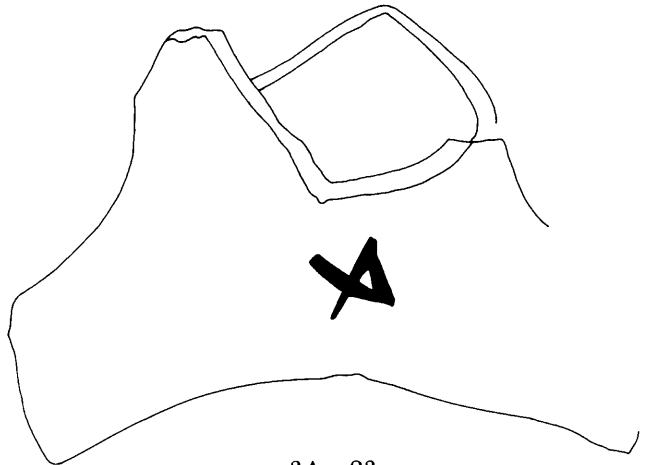
3A-21



3A-22



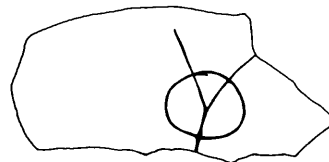
3A-18



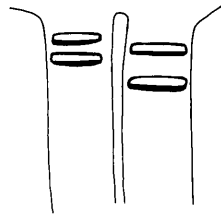
3A-23



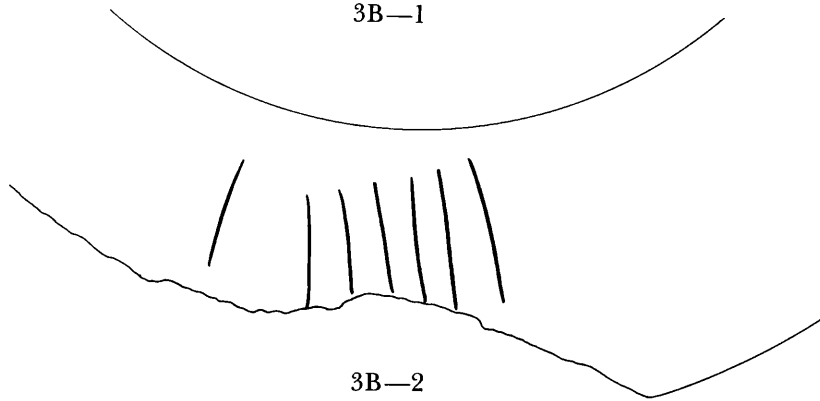
3A-19



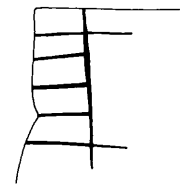
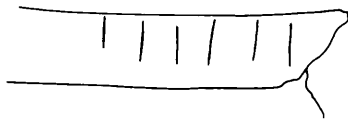
3A-24



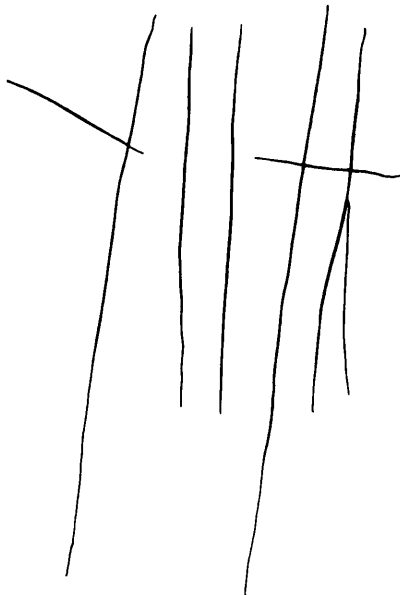
3B-1



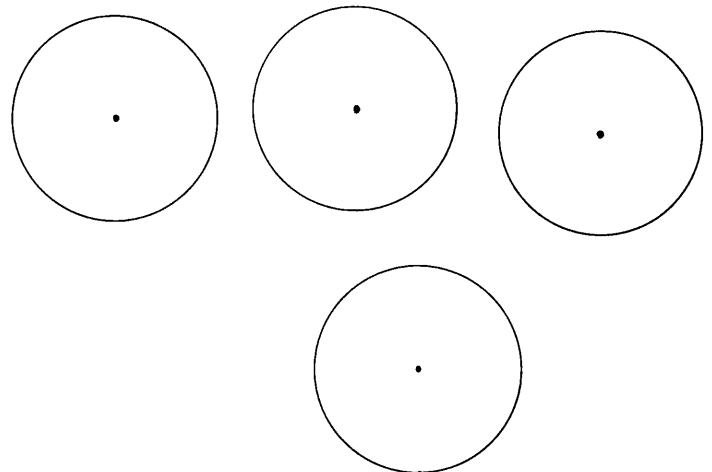
3B-2



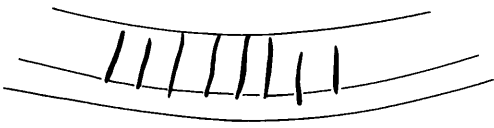
3B-4



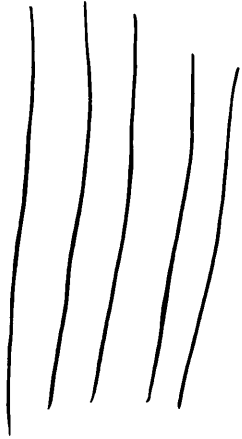
3B-3



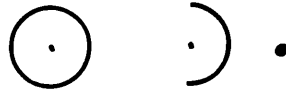
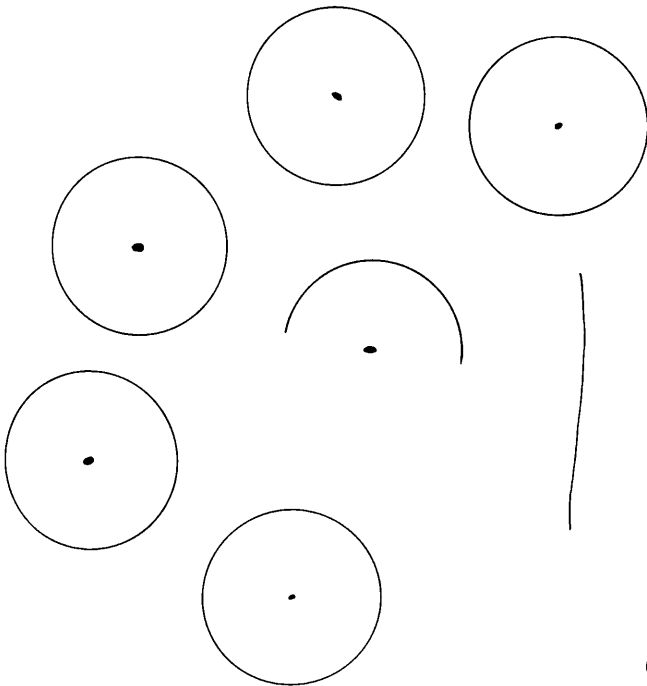
3B-5



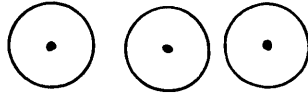
3B-6



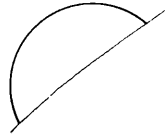
3B-7



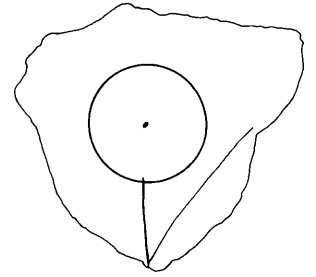
3B-8



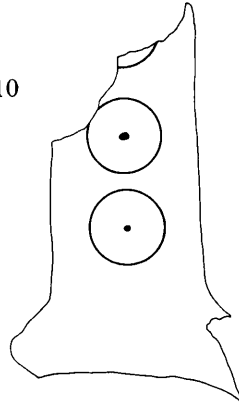
3B-9



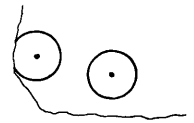
3B-10



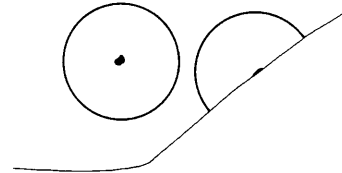
3B-11



3B-12



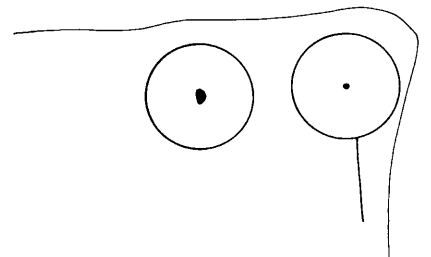
3B-13



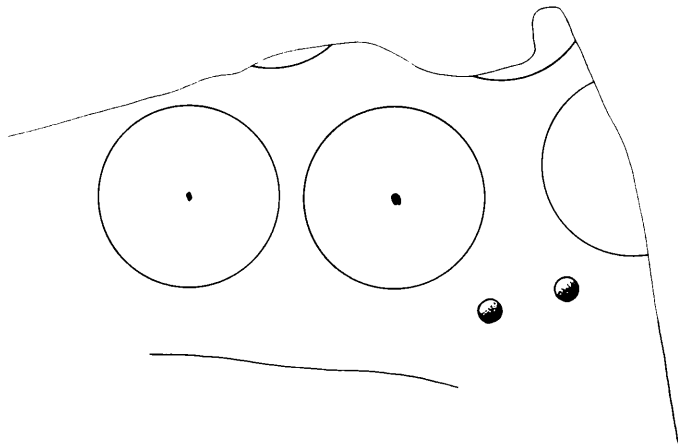
3B-14



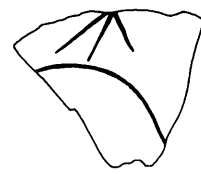
3B-15



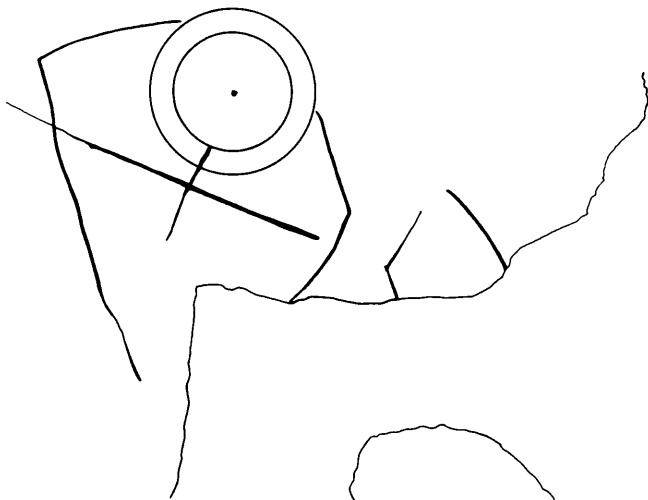
3B-16



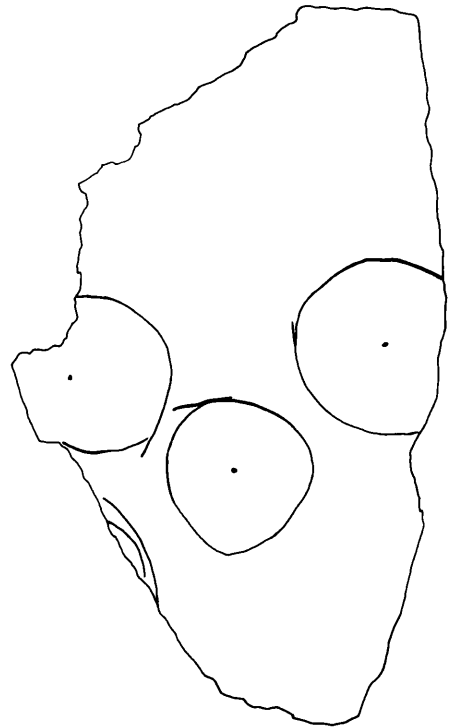
3B-17



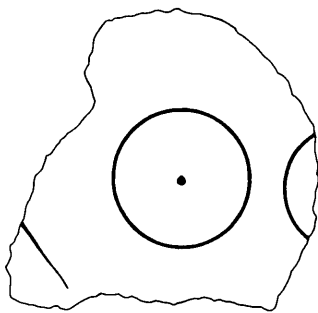
3B-21



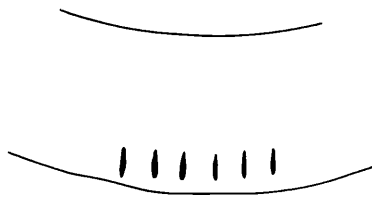
3B-18



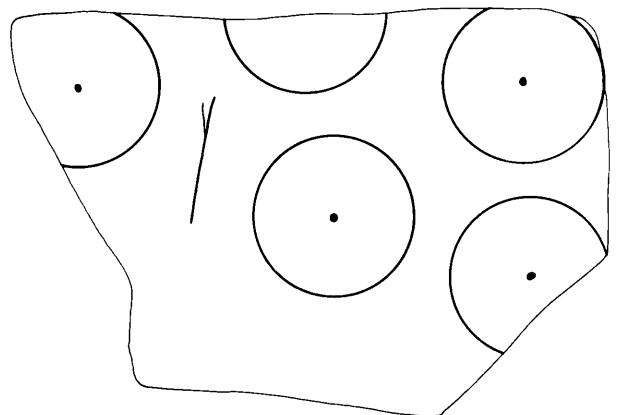
3B-22



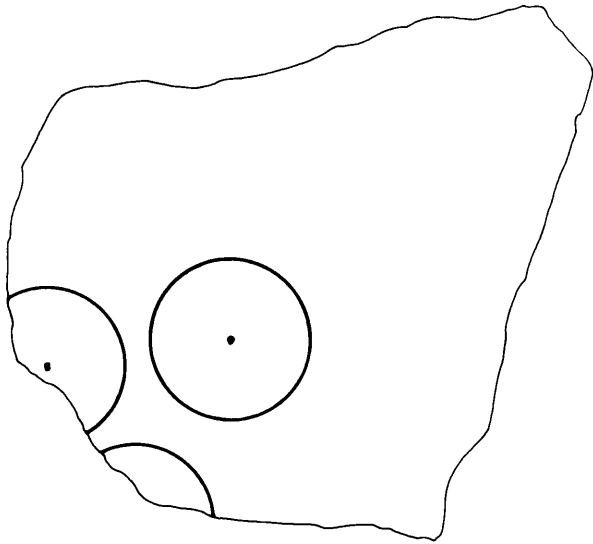
3B-19



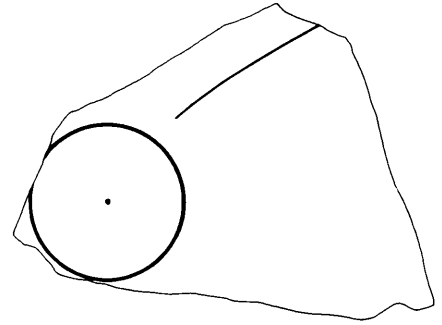
3B-20



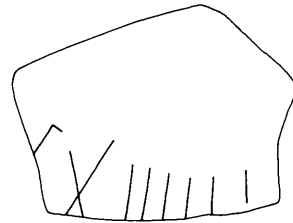
3B-23



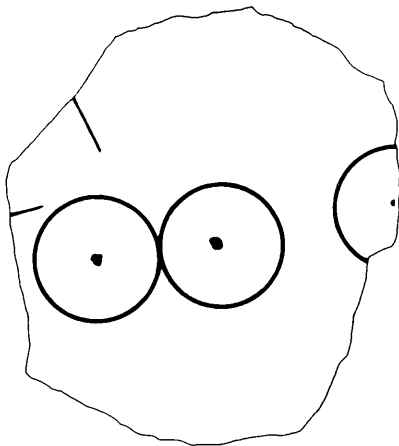
3B-24



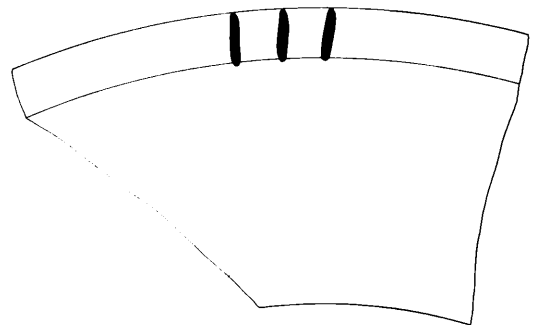
3B-26



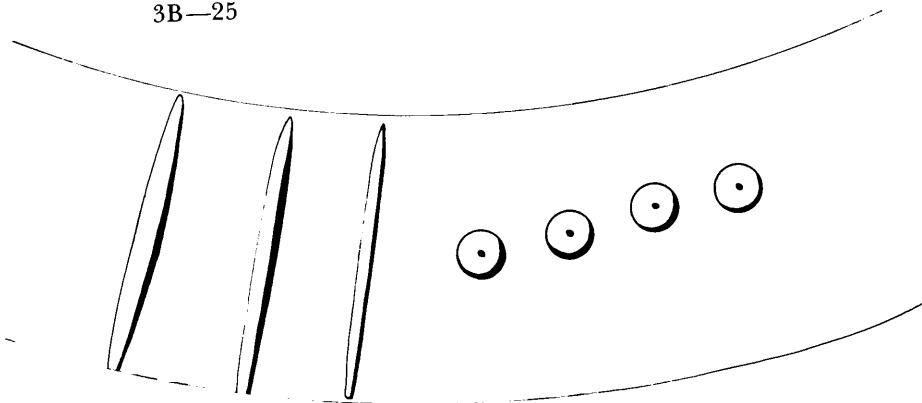
3B-27



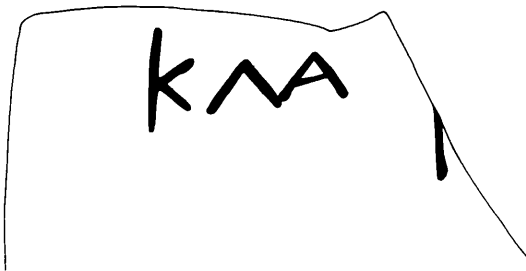
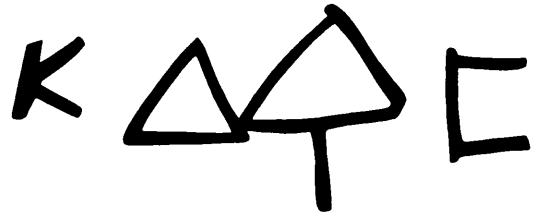
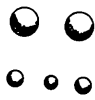
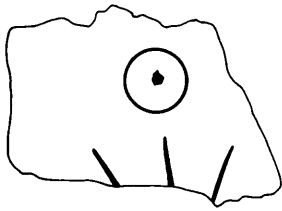
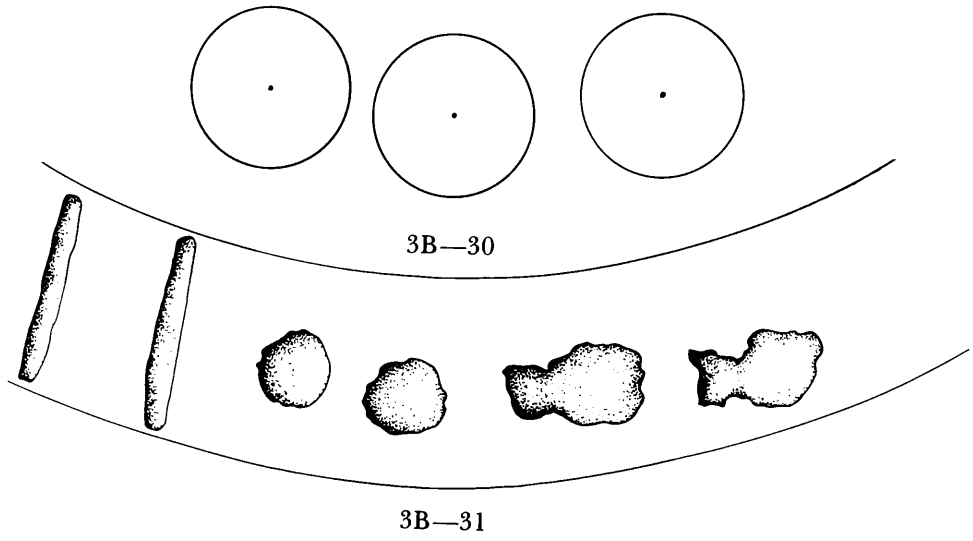
3B-25



3B-28



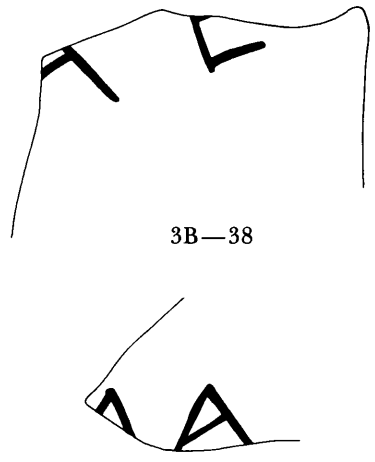
3B-29





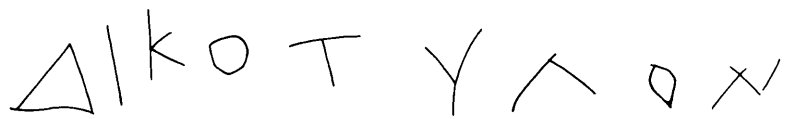


3B-38

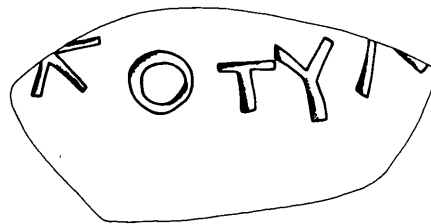


3B-38

3B-38

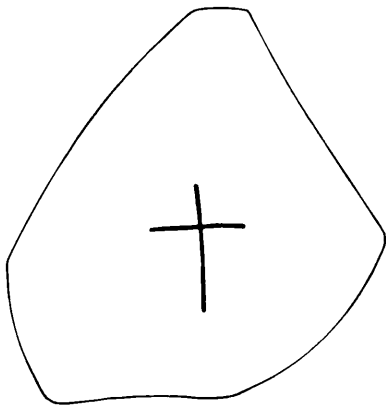


3B-39

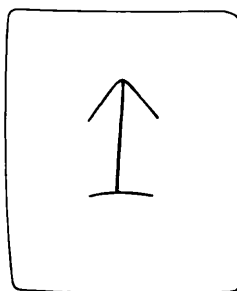


3B-40

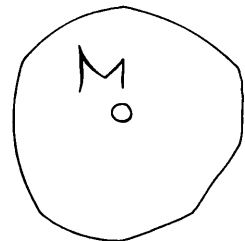
4 MISCELLANEOUS



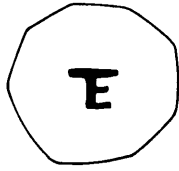
4-1



4-2



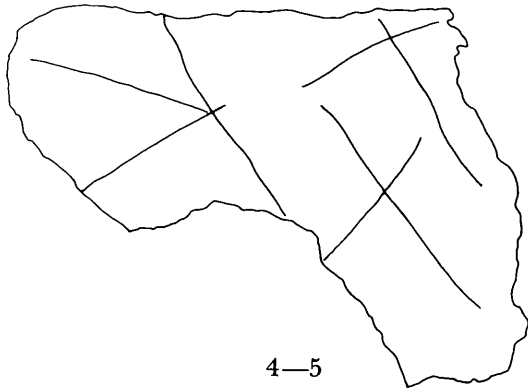
4-3



4-4



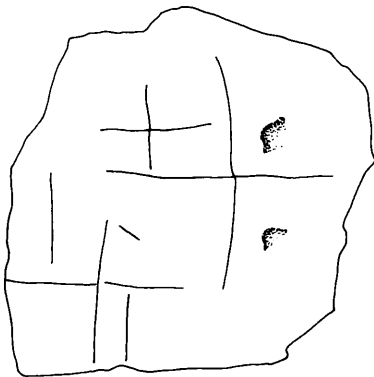
4-6



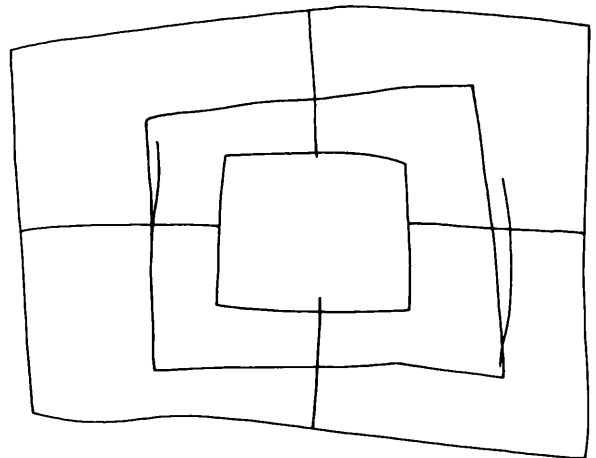
4-5



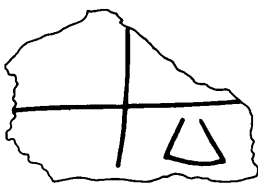
4-7



4-5



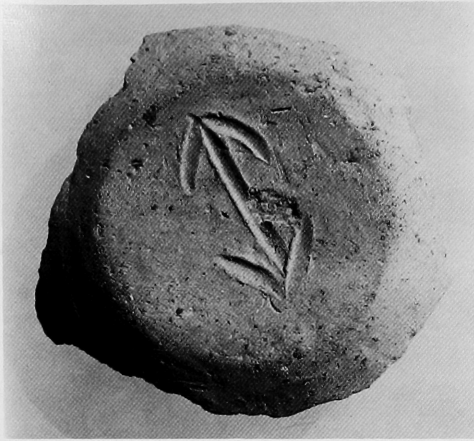
4-8



4-5



4-9



1A-2 (1:2)



1A-4 (1:2)



1A-5 (1:2)



1A-8 (1:2)



1A-18 (1:2)



1A-19 (1:2)



1B-1 (1:2)



1B-2 (1:2)



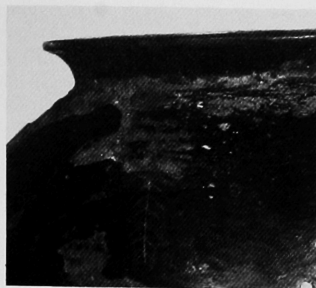
1B-6, 1B-7, 1B-9  
1B-3, 1B-8, 1B-10 (1:4)



1B-13 (1:2)



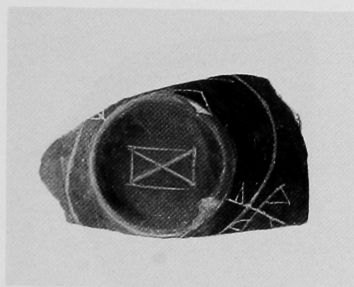
2A-1 (1:4)



2A-7 (NS)



2A-33 (1:4)



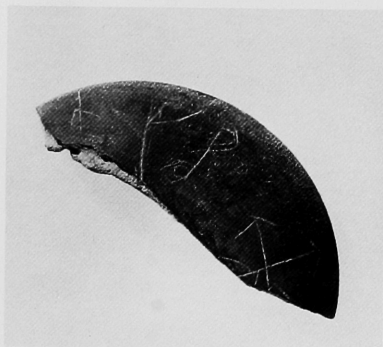
2A-58 (1:2)



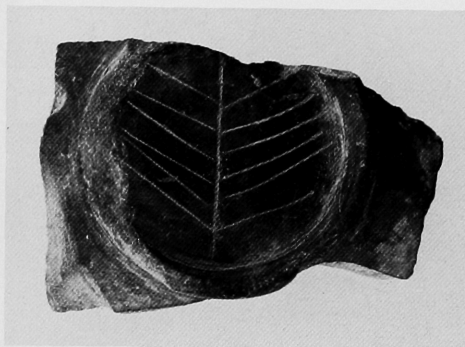
2A-97 (1:2)



2A-111 (1:4)



2A-127 (1:2)



2A-155 (1:2)



2A-191 (1:2)



2B-35 (1:2)



2B-55 (1:2)



2B-152 (1:2)



2C-2 (1:2)



2C-3 (1:2)



2C-4 (1:2)



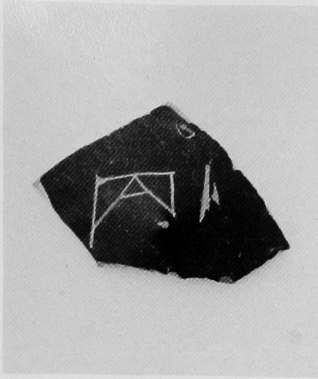
2C-6 (3:4)



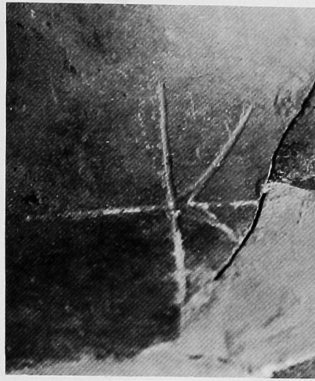
2C-7 (1:2)



2C-11 (1:2)



3A-9 (1:2)



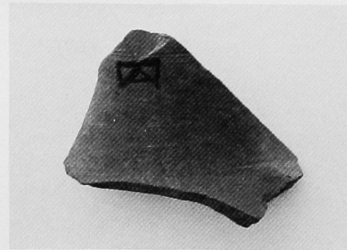
3A-10 (NS)



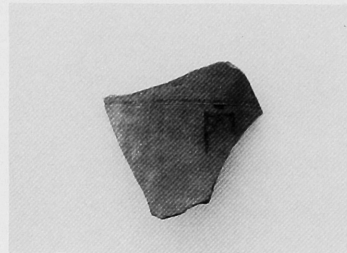
3A-13 (1:4)



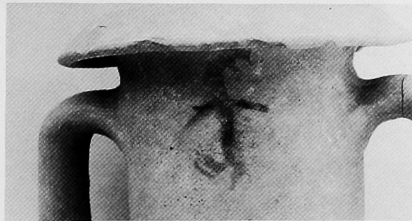
3A-15 (1:4)



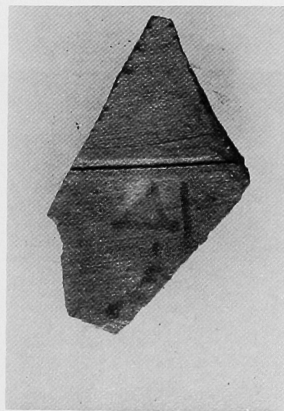
3A-16 (1:4)



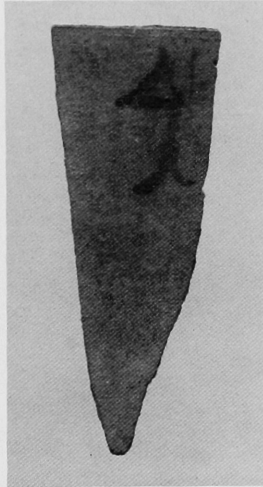
3A-17 (1:4)



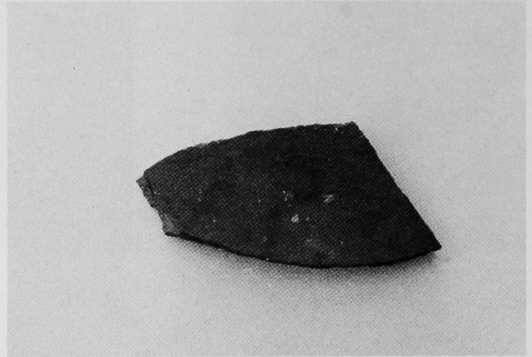
3A-18 (1:2)



3A-19 (1:2)



3A-20 (1:2)



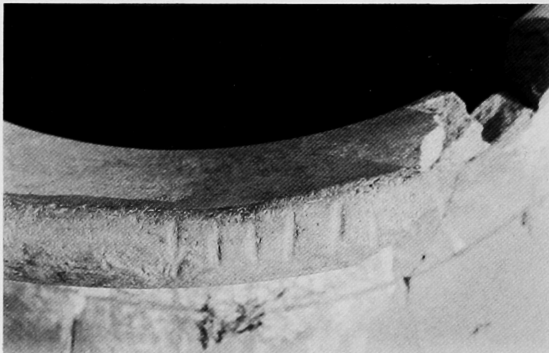
3A-21 (1:2)



3A-22 (1:2)



3A-23 (NS)



3B-3 (NS)







3B-7 (NS)



3B-8 (NS)



3B-29 (1:4)



3B-31 (NS)



4-8 (1:4)









