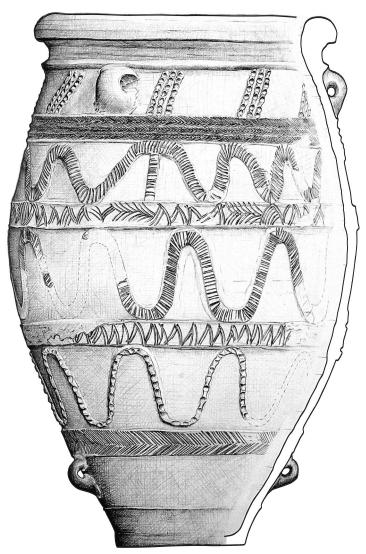
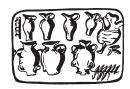


## CRETAN BRONZE AGE PITHOI

Traditions and Trends in the Production and Consumption of Storage Containers in Bronze Age Crete



Frontispiece. Pithos from Magazine VI in the West Magazine Complex at the palace of Knossos. Drawn by Nikoletta Ntolia.



## CRETAN BRONZE AGE PITHOI

Traditions and Trends in the Production and Consumption of Storage Containers in Bronze Age Crete

by
Kostandinos S. Christakis



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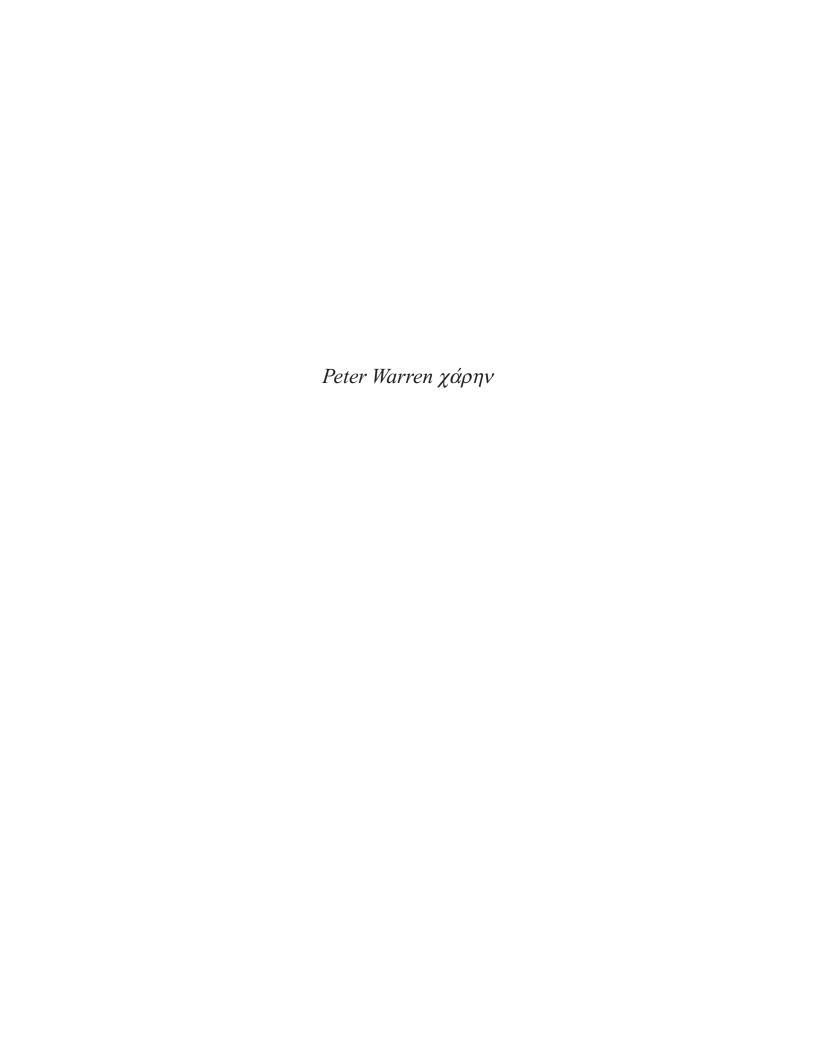
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# Table of Contents

LIST OF TABLE AND FIGURES	ix
LIST OF PLATES	xi
ACKNOWLEDGMENTS	xiii
ABBREVIATIONS	
INTRODUCTION	1
CHAPTER 1. A Formal Typology For Pithoi	5
CHAPTER 2. Decorative Patterns and Style	23
CHAPTER 3. The Use of Pithoi	45
CHAPTER 4. Traditions and Trends in the Production and Consumption of Pithoi	71
BIBLIOGRAPHY	87
INDEX	101
TABLE	
FIGURES	
PLATES	



# List of Table and Figures

Table 1. Functional performance characteristics and use of Cretan Bronze Age pithoi.

All figures are drawn by Nikoletta Ntolia.

- 1. Ovoid pithoi with wide mouth and low/without collar: Forms 1–3 (scale 1:10).
- 2. Ovoid pithoi with wide mouth and low/without collar: Forms 4–6 (scale 1:10).
- 3. Ovoid pithoi with wide mouth and low/without collar: Forms 7–9 (scale 1:10).
- 4. Ovoid pithoi with wide mouth and low/without collar: Forms 10–12 (scale 1:10).
- 5. Ovoid pithoi with wide mouth and low/without collar: Forms 13–15 (scale 1:10).
- 6. Ovoid pithoi with wide mouth and low/without collar: Forms 16–18 (scale 1:10).
- 7. Ovoid pithoi with narrow mouth and low/without collar: Forms 19–25 (scale 1:10).
- 8. Ovoid pithoi with narrow mouth and low/without collar: Forms 26–33 (scale 1:10).
- 9. Ovoid pithoi with narrow mouth and low/without collar: Forms 34–40 (scale 1:10).
- 10. Ovoid pithoi with narrow mouth and low/without collar: Forms 41–43 (scale 1:10).
- 11. Ovoid pithoi with narrow mouth and low/without collar: Forms 44–48 (scale 1:10).
- 12. Ovoid pithos with narrow mouth and high collar: Form 49 (scale 1:10).
- 13. Ovoid pithos with narrow mouth and high collar: Form 50 (scale 1:10).
- 14. Globular pithoi with narrow mouth and high collar: Forms 51–53; and piriform pithoi with narrow mouth and high collar: Forms 54 and 55 (scale 1:10).
- 15. Piriform pithoi with narrow mouth and high collar: Forms 56–62 (scale 1:10).
- 16. Piriform pithoi with narrow mouth and high collar: Forms 63–68 (scale 1:10).
- 17. Piriform pithoi with narrow mouth and high collar: Forms 69–76 (scale 1:10).
- 18. Piriform pithoi with narrow mouth and high collar: Forms 77–84 (scale 1:10).
- 19. Piriform pithoi with narrow mouth and high collar: Forms 85–88 (scale 1:10).

- 20. Piriform pithoi with narrow mouth and high collar: Forms 89–92 (scale 1:10).
- 21. Piriform pithoi with narrow mouth and high collar: Forms 93–97; and piriform pithoi with wide mouth and high collar: Forms 98–101 (scale 1:10).
- 22. Barrel pithoi with narrow mouth and high collar: Forms 102 and 103; barrel pithos with narrow mouth and low/without collar: Form 104; and barrel pithos with wide mouth and low/without collar: Form 105 (scale 1:10).
- 23. Conical pithoi: Forms 106–110 (scale 1:10).
- 24. Conical pithoi with vertical upper/middle sides; Forms 111–114 (scale 1:10).
- 25. Conical pithoi with vertical upper/middle sides: Forms 115–117; and conical pithos with convex side: Form 118 (scale 1:10).
- 26. Conical pithoi with convex sides: Forms 119–121; and tub pithos: Form 122 (scale 1:10).
- 27. Rope patterns: 1–5 and 7 (scale 1:1).
- 28. Rope patterns: 8–13 (scale 1:1).
- 29. Rope patterns: 14–16 and 18 (scale 1:1).
- 30. Rope patterns: 22–24 (scale 1:1).
- 31. Rope patterns: 26–28 (scale 1:1).
- 32. Rope patterns: 29–32 (scale 1:1).
- 33. Rope patterns: 33–36 (scale 1:1).
- 34. Raised band patterns: 1–3 (scale 1:1).
- 35. Raised band patterns: 4–7 (scale 1:1).
- 36. Raised band patterns: 8–11 (scale 1:1).
- 37. Raised band patterns: 12, 21, 23, and 24 (scale 1:1).
- 38. Raised band patterns: 25–28 (scale 1:1).
- 39. Raised band patterns: 32, 34, and 36 (scale 1:1).
- 40. Raised band patterns: 39-41 (scale 1:1).
- 41. Raised band patterns: 42, 46, and 47 (scale 1:1).
- 42. Raised band patterns: 48–51 (scale 1:1).
- 43. Raised band patterns: 66, 67, 69, and 71 (scale 1:1).
- 44. Raised band patterns: 73, 78, and 82–84 (scale 1:1).
- 45. Undulation of wavy ropes/bands in Arrangements 5, 19, 20, and 22–24.

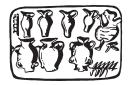


## List of Plates

All photos were taken by Christos Mbeltes unless otherwise credited.

- 1. Incised lines for the attachment of ropes/raised band patterns.
- 2. Rope patterns: 1, 4, 6, 8, 17, and 18 (K.S. Christakis).
- 3. Rope patterns: 19–21 and 24 (K.S. Christakis).
- 4. Rope patterns: 25–27 (K.S. Christakis).
- 5. Rope patterns: 29–32 and 37.
- 6. Raised band and rope patterns: Rope 11 and Bands 1, 13–15.
- 7. Raised band patterns: 16–18, 57, 60, and 68.
- 8. Raised band patterns: 19 and 20 (K.S. Christakis).
- 9. Raised band patterns: 22, 24, 25, and 29–31.
- 10. Raised band patterns: 33, 35, 37, 38, 43, and 44.
- 11. Raised band patterns: 45, 47, and 52–55.
- 12. Raised band patterns: 56–59.
- 13. Raised band patterns: 61–65.
- 14. Raised band patterns: 70–72 and 75–77.
- 15. Raised band patterns: 79-81 and 85.
- 16. Decorative patterns with raised band patterns of Group XI (K.S. Christakis).
- 17. Circle, concentric circle, and flower-like stamp impressions from Raised Band Pattern Group XII.
- 18. Various decorative patterns on pithoi from the West Magazines Complex of the palace of Knossos.
- 19. Reed and flower-like stamp impressions on raised bands and medallions on pithoi from Knossos.
- 20. Decorative patterns on pithoi from (a) the Royal Villa, Knossos and (b) Magazine XII in the West Magazines Complex of the palace of Knossos.
- 21. Decorative patterns on pithoi from (a) the palace and (b) House 2 at Galatas.

- 22. Decorative patterns on pithoi from (a) the Magazines of the Giant Pithoi, (b) Magazine IX, and (c) Magazine VI in the West Magazines Complex of the palace of Knossos.
- 23. Decorative patterns on the base of pithoi from (a) the palace of Galatas and (b) the Magazines of the Giant Pithoi from the palace of Knossos.
- 24. Pithoi from (a) the Room of the Giant Pithos, (b and c) Magazines X and IX in the West Magazines Complex, and (d) the South Propylaeum of the palace of Knossos.
- 25. Pithoi from (a and c) Magazines IV and V in the West Magazines Complex and (b and d) the South Propylaeum of the palace of Knossos.
- 26. Pithoi from (a and c) Magazine VIII, (b) Magazine IX, and (d) Magazine IV in the West Magazines Complex of the palace of Knossos.
- 27. Pithoi from (a, b, and d) Magazine IX and (c) the Long Corridor in the West Magazines Complex of the palace of Knossos.
- 28. Pithos from Magazine X in the West Magazines Complex of the palace of Knossos.



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The pithos is one of the most distinctive utilitarian forms of the Cretan Bronze Age ceramic repertoire. Because of its use as a storage container, a pithos is the foremost parameter for the evaluation of the economic organization of palatial and domestic sectors of Cretan Bronze Age society. The pithoi as pottery and their significance for the understanding of Cretan Bronze Age economy has been the focus of a research project carried out from 1989 to 1999. The initial impetus for this study came in 1988 at the suggestion of C. Davaras to whom I would like to express my thanks. This book presents the results of the research on the patterns of production and consumption of storage containers. The importance of pithoi in understanding Cretan Bronze Age economy is discussed elsewhere (Christakis forthcoming).

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Herakleion, August 2004



### **Abbreviations**

AE/NB Evans, A. Manuscript Daybooks on the Excavations at Knossos, Knossos Archives,

Ashmolean Museum, Oxford.

*Βασιλικά* Zepos, I., ed. 1910–1912. *Βασιλικά* I–V, Athens.

DM/NB Mackenzie, D. Manuscript Daybooks on the Excavations at Knossos, Knossos

Archives, Ashmolean Museum, Oxford.

F/NB Fyfe, T. Manuscript Notebooks (Sketchbooks) on the Excavations at Knossos,

Knossos Archives, Ashmolean Museum, Oxford.

Geoponica Beckh, H., ed. 1895. Geoponica Sive Cassiani Bassi Scholastici de Re Rustica,

Ecologae, Lepsia.

Gorgias Hermann, C.F., ed. 1885. Platonis. Charmides, Laches, Lysis III, Lepsia.

PG Migne, P., ed. 1857–1866. Patrologiae Cursus Completus, Series Graeca, Paris.

PM I Evans, A.J. 1921. The Palace of Minos at Knossos I, London.

PM II Evans, A.J. 1928. The Palace of Minos at Knossos II, London.

PM III Evans, A.J. 1930. The Palace of Minos at Knossos III, London.

PM IV Evans, A.J. 1935. The Palace of Minos at Knossos IV, London.

Σχόλια Θεοκρίτου Wendel, C., ed. 1914. Scholia in Theocritum, Lepsia.

ANM Agios Nikolaos Archaeological Museum

CHM Chania Archaeological Museum

HM Herakleion Archaeological Museum

IM Ierapetra Archaeological Collection

KSM Knossos Stratigraphical Museum

SM Siteia Archaeological Museum

AK Akrotiri, Thera inventory number

GSM Kastelli Chania inventory number

SMP Knossos Stratigraphical Museum pot inventory number

EM Early Minoan

MM Middle Minoan

LBA Late Bronze Age

LC Late Cycladic

LM Late Minoan