



The Great Islands

EDITORS: Colin F. Macdonald, Eleni Hatzaki and Stelios Andreou

Studies of Crete and Cyprus
presented to Gerald Cadogan



KAPON EDITIONS

For financial support we gratefully acknowledge
the A. G. Leventis Foundation
and the Institute for Aegean Prehistory (Philadelphia)

The Great Islands

Studies of Crete and Cyprus
presented to Gerald Cadogan

www.kaponeditions.gr

<http://www.kaponeditions.gr/archeology-archeology-great-islands-p-129.html>

The Great Islands

Studies of Crete and Cyprus
presented to Gerald Cadogan

EDITORS

Colin F. Macdonald, Eleni Hatzaki and Stelios Andreou

All rights reserved. No part of this publication may be reproduced or republished, wholly or in part, or in summary, paraphrase or adaptation, by mechanical or electronic means, by photocopying or recording, or by any other method, without the prior written permission of the editor, according to Law 2121/1993 and the regulations of International Law applicable in Greece.

ISBN 978-960-6878-91-6

© 2015 Kapon Editions and Individual Authors

KAPON EDITIONS

23–27 Makriyanni St Athens 117 42, Greece

Tel. (+30) 210 9235 098, Fax (+30) 210 9214 089

e-mail: info@kaponeditions.gr www.kaponeditions.gr



KAPON EDITIONS

CONTENTS

9	PREFACE
11	ACKNOWLEDGEMENTS
11	ABBREVIATIONS
12	Poem by MIRIAM CASKEY The seventies may come and go, a major landmark with all the show
13	Mantinada by PAUL HALSTEAD Το παράπονο των Τζεραλντισμένων
14	SOME REMINISCENCES SINCLAIR HOOD, VASSOS KARAGEORGHIS, HUGH SACKETT, STELIOS ANDREOU, MARIA IACOVOU, NICOLETTA MOMIGLIANO, ANJA ULBRICH, SILVIA FERRARA
PART I: MYRTOS–PYRGOS, CRETE AND THE AEGEAN	
30	PAUL HALSTEAD and VALASIA ISAAKIDOU Good people of Eastern Crete
34	PETER WARREN In divino veritas. Remarks on the conceptualization and representation of divinity in Bronze Age Crete
41	TODD WHITELAW The divergence of civilisation: Fournou Korifi and Pyrgos
49	ELENI HATZAKI Ceramic production and consumption at the Neopalatial settlement of Myrtos–Pyrgos: the case of ‘in-and-out’ bowls
58	EMILIA ODDO Cross-joins and archaeological sections. The Myrtos–Pyrgos cistern: reconstructing a Neopalatial stratigraphy
63	CARL KNAPPETT Palatial and provincial pottery revisited
67	JOHN YOUNGER The Myrtos–Pyrgos and Gournia roundels inscribed in Linea A: Suffixes, prefixes, and a journey to Syme
71	JUDITH WEINGARTEN Old, worn, and obscured: Stamped pot handles at Pyrgos
76	BORJA LEGARRA HERRERO A square tomb with a round soul. The Myrtos–Pyrgos tomb in the funerary context of Middle Bronze Age Crete
82	JONATHAN H. MUSGRAVE Myrtos–Pyrgos: A snapshot of dental and skeletal health in Bronze Age Crete
90	ARGYRO NAFPLIOTI Evidence for residential mobility at Myrtos–Pyrgos
94	ALEXANDRA KARETSOU and ANNA MARGHERITA JASINK A Hieroglyphic seal from the Juktas Peak Sanctuary
100	OLGA KRZYSZKOWSKA Why were cats different? Script and imagery in Middle Minoan II glyptic

107	MARINA PANAGIOTAKI Egyptian Blue: The substance of eternity
114	JAMES D. MUHLY AND PHILIP P. BETANCOURT Lapis lazuli in the Greek Bronze Age
120	COLIN F. MACDONALD ‘Things are seldom what they seem’. Some Middle Minoan rooms with gypsum pillars at Knossos
131	MALCOLM H. WIENER The Mycenaean conquest of Minoan Crete
143	KATERINA KOPAKA Minos Kalokairinos and his early excavations at Knossos. An overview, a portrait, and a return to the Kephala pithoi
152	†STYLIANOS ALEXIOU The naval wall-painting of Thera
159	HARRIET BLITZER On goat hair
168	DAVID WILSON The Early Bronze II seal impressions from Ayia Irini, Kea: Their context, pan-Aegean links, and meaning
175	JACK L. DAVIS AND SHARON R. STOCKER Crete, Messenia, and the date of Tholos IV at Pylos
179	L. VANCE WATROUS Bronze Age past and present in Classical Greece

PART II: MARONI–VOURNES AND CYPRUS

186	DAVID A. SEWELL The seafarers of Maroni
192	JAN DRIESSEN A power building at Maroni–Vournes
198	STURT MANNING Two notes on Myrtos–Pyrgos and Maroni–Vournes. 1. The date of the destruction of the country house at Myrtos–Pyrgos. 2. The spatial setting of Maroni–Vournes
206	CAROL BELL Maroni–Vournes Mycenaean wares: a very pictorial assemblage
211	SILVIA FERRARA Cypriot inscriptions, pot-marks, and all things unreadable: Maroni–Vournes and beyond
214	ANJA ULBRICH Maroni–Vournes beyond the Bronze Age: Investigating an Archaic to Hellenistic shrine
219	ALISON SOUTH Neighbours or rivals: Buildings and people at Kalavastos and Maroni
224	DIANE BOLGER Were they all women? Gender and pottery production in prehistoric Cyprus
230	GEORGE PAPASAVVAS AND VASILIKI KASSIANIDOU The new status of copper and bronze on Cyprus at the end of the Late Bronze Age
237	MURRAY C. MCCLELLAN AND PAMELA J. RUSSELL Regifting, Cesnola-style: The case of a Cypriot votive head at Amherst College
241	Gerald Cadogan—Bibliography
247	Index



PREFACE

This volume of papers in honour of Gerald Cadogan concentrates on the two islands, Crete and Cyprus, that have been the focus of his archaeological research over the last fifty-four years, with a few papers more loosely connected to the central themes. The contributors are mostly scholars who have worked with Gerald and are contributing to the publication of his two excavations; others are friends and colleagues.

Gerald Cadogan has had a long association with Crete and Cyprus, beginning from his school days at Harrow—also attended by Sir Arthur Evans, Sinclair Hood and Constantine Leventis—when in 1960 he was sent out to Knossos to assist Sinclair Hood in his excavations either side of the Royal Road and at the Early Houses. Half way through his undergraduate career at Merton College, Oxford (*Literae Humaniores*, 1960–1964), Hood took him under his wing. Along with Peter Warren, they conducted a survey in Crete during which two sites were located that were soon to be excavated by the two young men: Myrtos–Fournou Koryfi by Warren, and Myrtos–Pyrgos by Cadogan.

Gerald's close association with the British School at Athens began in 1964 where he became Macmillan Student (1965–7). He married Lucy Ramberg in 1968. Lucy has taken part in or generally supported all Gerald's fieldwork since his first excavation beginning in 1970. Later, at Maroni, she finished her first novel, "Digging" (Chatto & Windus, London: 1987) which is set on a 'fictional' excavation in Crete during the military dictatorship of Greece. While a research lecturer at Christ Church, Oxford, and not yet 30, Gerald began excavating Myrtos–Pyrgos, the prehistoric hilltop village with its 'Country House' overlooking the Libyan Sea, which continues to be a focus of his work in Crete and is a major theme of this volume.

At 32, Gerald was appointed Associate Professor of Classical Archaeology at Cincinnati where he began to supervise PhD students not much younger than himself. Stelios Andreou, one of the editors of this volume, was his first PhD student. Andreou's thesis on Early and Middle Minoan pottery groups benefitted from Gerald's early experience at Knossos under Hood and integrated Gerald's familiarity with Cretan provincial pottery acquired from the excavation of Myrtos–Pyrgos. In 1976 Cadogan published the *Palaces of Crete*, a very accessible work on many of the major sites of Minoan Crete. Later, he edited the volume on the Early Bronze Age Aegean in honour of J. L. Caskey (Cadogan 1986) and wrote or edited the archaeological contributions for the pioneering volume, *The Aerial Atlas of Ancient Crete* (Myers, Myers and Cadogan 1992).

While at Cincinnati, Gerald was asked by Vassos Karageorghis to excavate a site investigated many years earlier by the British Museum at Maroni–Vournes. Several

contributors to this volume took part in Gerald’s dig at one time or another and will contribute to its final publication. The excavation uncovered a monumental, administrative building (the Ashlar Building) which, together with the larger and slightly later Kalavassos–Ayios Dhimitrios, has helped to change the archaeological landscape of 13th century BC Cyprus.

After a decade at Cincinnati, Gerald and family (now with the children, Leo and Nancy) moved back to England and Oxfordshire. He became the archaeology correspondent for the Financial Times, later covering heritage and finally property over a twenty year period until 2004. He often reported too from the Mediterranean on subjects as diverse as his excavation at Maroni and exceptional tavernas in Crete. More and more involved in the British School at Athens, he eventually became Chairman for the seven years from 1995–2002. Gerald is now a Vice-President and remains active on Council and several other committees. He is or has been involved in numerous bodies that support Hellenic studies and heritage including the Anglo-Hellenic League.

For 50 years now, Gerald has had a thriving career as a field archaeologist, excavating, analysing and explaining the past of Crete and Cyprus to specialists, and the general public. He has also had an inspiring career as teacher and mentor during which he produced many students, who are now mature professionals themselves. Some were taught by him at the Department of Classics of the University of Cincinnati, but several think of themselves as Gerald’s students because they have been fortunate enough to learn from him through his knowledgeable, precise and fair comments on their dissertations, through their collaboration in the trench or pottery shed, or through long discussions over several bottles of wine and glasses of raki at Knossos or elsewhere in Crete, Cyprus or the UK. There is no doubt that many have profited from his broad and profound knowledge of Aegean and East Mediterranean prehistory, which he combines with a deep and reflective understanding of the later history and contemporary life of these lands and of the world in general. Not least, we have all profited from his caring, humane and spirited personality.

The last fifteen years have been spent moving towards the final publications of Myrtos–Pyrgos and Maroni–Vournes while at the same time collaborating with Sinclair Hood on Early Bronze Age Knossos (Hood and Cadogan 2011). In addition, he organized two major conferences and edited the proceedings: *Knossos: Palace, City, State* (Cadogan, Hatzaki and Vasilakis 2004), and *Parallel Lives* about society on Crete and Cyprus (Cadogan, Iacovou, Kopaka and Whitley 2012). The best, the final publications of Myrtos and Maroni, is yet to come and we all wish Gerald well with his continuing contributions to the archaeology of the two Great Islands, Crete and Cyprus.

COLIN MACDONALD, ELENI HATZAKI, STELIOS ANDREOU

ACKNOWLEDGEMENTS

This idea for this volume was announced at a gathering to mark Gerald Cadogan’s birthday held at the T. S. Eliot theatre of Merton College, Oxford, an event kindly facilitated by Irene Lemos and attended by almost fifty people including Gerald’s family (particularly Lucy, his wife, and Leo Cadogan and Nancy Guinness, their two children). Anastasios Leventis was also present, the Leventis Foundation being one of two generous sponsors of the volume. The editors are grateful to the A. G. Leventis Foundation and the Insititute for Aegean Prehistory for funding the entire publication. Rachel and Moses Capon of Kapon Editions, and their staff, particularly Eleni Valma, Mina Manta and Michalis Tzanetakis, have patiently put the volume together despite the uneven flow of manuscripts and illustrations. We are very grateful to the British School at Athens for blanket permission to publish material from its excavations, notably Myrtos–Pyrgos. We acknowledge the following Museums for permission to publish a selection of objects and pots: Heraklion Archaeological Museum, National Archaeological Museum, the Louvre, the British Museum. We particularly thank Maria Andreadaki-Vlasaki for providing images for Wiener’s paper, and Georgia Flouda and Katerina Athanasaki for help at Heraklion Museum. Others are acknowledged in the course of the volume.

We thank Nancy Guinness for allowing her portrait of her father to be used in the book (FIG. 1, p. 14), and Benita Stoney for her painting of Myrtos pots. The editors are particularly grateful to Gerald Cadogan himself for his help in producing this volume. Although it is unusual for the honorand to be asked to do so much, he was called upon to do a large amount of work where his own excavations at Myrtos and Maroni were concerned. We hope that the rest of the papers, at least, are a refreshing and pleasant surprise.

ABBREVIATIONS

Apart from the abbreviations below, the abbreviations listed by the American Journal of Archaeology will usually be followed. <http://www.ajaonline.org/submissions/abbreviations#S>

CHIC = Olivier J.-P. and L. Godart, 1996. *Corpus Hieroglyphicarum Inscriptionum Cretae*. Études Crétoises 31. Athens and Rome.

CMS = *Corpus der minoischen und mykenischen Siegel*. Berlin 1964–2000; Mainz 2002 –

GORILA = Godart L. and J.-P. Olivier, 1976–1985. *Recueil des inscriptions en Linéaire A*, (*Etudes Crétoises* 21), Vols. 1–5. Paris.

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

PM II = Evans, A. J., 1928. *The Palace of Minos at Knossos*. Vol.II.1–2. London.

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

PM IV = Evans, A. J., 1935. *The Palace of Minos at Knossos*. Vol.IV.1–2. London.

PM Index = Evans, J. and A. Evans, 1936. *Index to The Palace of Minos*. London.

Maroni I = Cadogan, G., 1983. ‘Maroni I’, *RDAC*: 153–162.

Maroni II = Cadogan, G., 1986. ‘Maroni II’, *RDAC*: 40–44.

Maroni III = Cadogan, G., 1987. ‘Maroni III’, *RDAC*: 81–84.

Maroni IV = Cadogan, G., 1988. ‘Maroni IV’, *RDAC*: 229–231.

Maroni V = Cadogan, G. and M. R. Domurad, 1989. ‘Maroni V’, *RDAC*: 77–82.

Maroni VI = Cadogan, G., 1992. ‘Maroni VI’, *RDAC*: 51–58.

Palace of Nestor I = Blegen, C. W., and M. Rawson, 1966. *The Palace of Nestor at Pylos in Western Messenia, I: The Buildings and Their Contents*. Princeton.

Palace of Nestor III = Blegen, C. W., M. Rawson, Lord W. Taylour, and W. P. Donovan (eds), 1973. *The Palace of Nestor, III: Acropolis and Lower Town. Tholoi and Grave Circle. Chamber Tombs. Discoveries outside the Citadel*. Princeton.

OTHER ABBREVIATIONS

BM	British Museum
HM	Heraklion Museum
FM	Furumark Motif
FS	Furumark Shape
MP	Myrtos–Pyrgos
MV	Maroni–Vournes

MARONI–VOURNES AND CYPRUS



The British Museum was the first to investigate Maroni–Vournes, searching for tombs in 1897. The site, a few hundred metres inland from the south coast of Cyprus, was excavated methodically by Gerald Cadogan and the University of Cincinnati from 1982 onwards. These recent excavations uncovered two large buildings (the Ashlar Building—opposite—and the West Building) of the late 14th to early 13th centuries BC (Vournes III) with evidence for a predecessor of the Ashlar Building, contemporary with a sunken structure called the Basin Building (p. 195, FIG. 4), a structure unique in Cyprus. Evidence for small-scale metallurgy, including slag, spillage and ingot fragments, was recovered from Vournes Phases II and III. With its fine ashlar masonry and beautiful, white mud brick, the Ashlar Building was the most imposing of the settlement and, with the West Building, comparable to Building X at nearby Kalavassos–Ayios Dhimitrios. The Maroni buildings, probably belonging to a major settlement stretching south to the sea, seem to have worked in tandem providing storage and working areas for olive oil and cloth production, as well as areas for copper smelting which may be related to industrial performance as opposed to large-scale production.

THE NEW STATUS OF COPPER AND BRONZE ON CYPRUS AT THE END OF THE LATE BRONZE AGE

GEORGE PAPASAVVAS AND VASILIKI KASSIANIDOU

Throughout the Late Bronze Age Cyprus was a major supplier of copper to Eastern Mediterranean and Near Eastern states, such as Egypt, Assyria and the Aegean world, fully participating in a system of economic transactions based upon reciprocal exchanges of commodities and high order finished goods (Cline 1995: 145; Zaccagnini 1987: 58). In this period, Cypriot copper was most probably a key component for several bronze industries and, in fact, most of the oxhide ingots analysed from various sites of the Mediterranean have been shown to be consistent with a Cypriot provenance (Gale 2011: 214–18; Gale and Stos-Gale 1999: 272–3). Cypriot copper may indeed have been highly regarded in Egypt and the Near East, and both archaeological finds and Near Eastern texts testify to the circulation of Cypriot copper in several directions as early as the Middle Bronze Age (Peltenburg 2008). Copper from Alashia is mentioned in administrative texts of the early second millennium BC. from Mari (Liverani 1990: 207–8; Kitchen 2009: 5), while in the Amarna letters and in other documents referring to Alashia, the main preoccupation of the involved agents is the supply of copper, even if the kings of Egypt, Hatti and Babylonia and elsewhere, not only exchanged raw materials, but also various finished products (Liverani 1987: 68). However, in contrast to the regions where Cypriot copper was imported in the Late Bronze Age, on Cyprus itself and during the larger part of this period, there exists no evidence for the simultaneous development of a vigorous bronze industry (Papasavvas 2012).

While there is some evidence for copper production as early as the Philia phase at the latest, as well as, textual evidence for the exportation of Cypriot copper by the Middle Bronze Age (Kassianidou 2008), and although Cypriot smiths of the Early and

Middle Cypriot periods were producing large numbers of copper-based artefacts (Weinstein Balthazar 1990), Cypriot metalwork was, up to the last phase of the Late Bronze Age, a rather conservative and typologically restricted enterprise. The main products of Cypriot workshops were weapons and tools of only a few types, manufactured with simple techniques in open or bivalve moulds (for one possible exception see Buchholz 1979).

The inception of Late Cypriot I saw an increase in copper production, along with socio-political transformations of paramount importance (Keswani 1996: 217–20; Kassianidou 2012: 104). This marked increase in production (and subsequently export), is to a great extent due to significant technological developments in the smelting installations. The furnaces dating to the LC were equipped with a system of bellows and tuyères, the use of which led to a marked increase in the operating temperature and thus to the complete melting of their contents. The two liquid products, metal and slag, could therefore be easily and efficiently separated without a significant loss of metal in the slag (Kassianidou 2011: 45–6). This technological innovation allowed Cypriot smiths to exploit the incredible mineral wealth of the foothills of the Troodos mountains. Cyprus is even today considered to be one of the richest countries in copper per surface area in the world (Constantinou 1982: 15). Thus, because of the rich copper ore deposits of the Troodos foothills and the improved smelting technology, Cyprus became the leading producer and exporter of copper throughout the Late Bronze Age.

In this period, diplomatic contacts between Mediterranean and Near East polities intensified, and within this framework Cyprus became more intensively involved in economic and political transactions

1. The grave goods of Tomb 93 at Enkomi. ©Trustees of the British Museum.

1



(Sherratt and Sherratt 1991: 365–71; Peltenburg 1996: 36; Zaccagnini 2000: 141, 153). The driving force for this expansion was apparently external demand for Cypriot copper, as attested in the written sources, and from this period onwards, the exploitation of copper resources was expanded from a localized to an international level (Liverani 1990: 210; Keswani 2004: 140; Webb 2005: 180; Peltenburg 2012a; Peltenburg 2012b).

In this same period, an unprecedented influx of imported luxuries enters the Cypriot material record. These imported prestige objects appear to have acquired a social value and to have been exploited as symbols of prestige and competitive display by local groups who had access to them, associated as they were with foreign, illustrious social classes of high rank (Knapp 1998: 202–3; Liverani 2000: 218, 225–6; Keswani 2004: 121, 136; Webb 2005: 176). The most dramatic change of material expenditure in Late Cypriot contexts is the disposal in gold in tombs, which was rarely encountered in previous periods (Knapp 1998: 201; Keswani 2004: 102, 119, 154–9). The display of imported, prestigious items for social competition has been associated with the escalation of copper production, since copper was almost the only internationally desired raw material from the island (apart perhaps from timber), that could be mobilized for large scale, international transactions.

At the same time, the disposal rate of bronzes during the larger part of the Late Bronze Age was surprisingly low. Most burials of Late Cypriot I–IIB (roughly from the middle of the 17th to the late 14th cent. BC), contained no bronze objects at all, or at best only a small number of undersized personal ornaments. Some larger objects, such as daggers, are still encountered in rich tombs early in the Late Cypriot I period, but even they almost totally disappear before the next period (Keswani 2004: 99–100, 125, 145). To mention only two examples, Tomb 11 at Ayios Dhimitrios had received many gold artefacts weighing almost 0.5 kg (Goring 1996), an amount surpassed only by the gold contents of Enkomi Tomb 93, but only one bronze item (a dagger). Enkomi Tomb 93 itself, the richest of all Late Cypriot tombs if the quantity of gold is taken into consideration (FIG. 1), contained no bronzes at all (Keswani 2004: 236, 243).

Although this phenomenon could in theory be attributed to other factors, such as differing practices in the consumption and disposal of metal artefacts, or even to an extensive metal recycling practice, the fact remains that no other contexts have delivered bronze artefacts in significant numbers, either. This shortage of bronzes in the Late Cypriot record appears even more astounding when seen against the simultaneous intensification of copper production on the island and the increased participation in the trade networks of the Eastern Mediterranean and the Near East. For example, the ship that sank at Uluburun towards the end of the 14th century BC was carrying ten tons of Cypriot copper (Pulak 2008; Pulak 2000). Similarly, according to the Amarna letters which date to the middle of the 14th century BC and correspond to a time span of 15 to 30 years (Moran 1992: xxxiv), the king of Alashia sent to Egypt a total of 29 tons of copper (Knapp 2011: 251). The combination of this evidence could result to the astonishing observation, that the more involved in overseas trade and the more copper Cyprus produced, the less use did the island's workshops make of this metal at home.

Cypriot society experienced major restructuring in the late 14th century BC, when extensive transformations of the social, economic, political and cultural environment of the island were inaugurated. Several new urban centres emerged, while older ones witnessed deep changes in town planning and architectural environment. All of these centres were active in copper production and long distance trade. At Enkomi, for instance, copper production peaked in the Late Cypriot IIC period, and the multiplication as well as the spatial distribution of the metallurgical installations at this site indicate that by this time a larger number of people were involved in copper exploitation (Kassianidou 2013: 140–4; Muhly 1989; Pickles and Peltenburg 1998: 88–91; cf. Dikaios 1969–71: 46–66; Crewe 2007: 17–18). Remains of metallurgical workshops dating to LC IIC were also excavated at Kalavassos–Aghios Dhimitrios (South 2012), Alassa (Hadjisavvas 2011), and Maroni–Vournes (Doonan et al. 2012), while a miner's settlement was established at Apliki (Du Plat Taylor 1952; Kling and Muhly 2007), the mine which most probably produced

all the oxhide ingots dating from 1450 BC onwards (Gale 2011: 218). These transformations overlap with the emergence of Cyprus as an even more dynamic agent in maritime trade, with an enlarged scope reaching as far as the central Mediterranean (Sherratt and Sherratt 1991: 372; Kassianidou 2013).

This climax of commercial activities would probably have granted considerable prosperity to several individuals specializing in different aspects of copper production and circulation (Keswani 2004: 86, 128, 143–4, 160–1; Webb 2005: 181; cf. Liverani 1990: 269). In the 13th–12th century BC. Mediterranean in general, small-scale trade based on private mercantile enterprises acquired a vital role in the circulation of commodities and materials, at the expense of monopolistic control and without the support of the international diplomacy that prevailed in the previous periods (Artzy 1998; Pickles and Peltenburg 1998; Sherratt 2000: 88–9; Monroe 2009: 151–7). At the same time, large numbers of elaborate artefacts produced in Cypriot workshops, often made of foreign materials and in adapted types, styles, iconographies and techniques (Keswani 1989; Antoniadou 2005: 68, 72; Webb 2005: 176) enter the archaeological record as prestige and status emblems, a role that was previously served by imported goods. The development of local crafts on the island during this period, such as seal cutting, glass and faience crafting or ivory carving, seems to suggest that high status items were available to more consumers (Liverani 1987: 4; Pickles and Peltenburg 1998: 90).

It was against this backdrop of social transformations and intensified copper production and export, that bronze-working became a hallmark of Cypriot art and society (Sherratt 2000: 83; Keswani 2004: 125, 127–8). It is perhaps not a coincidence that most of the oxhide ingot fragments found on the island date to this period (Kassianidou 2009: 58). When bronzes resurfaced in the Cypriot material record, this happened in an ostentatious way, with products of artistic and technological excellence. Several original types of artefacts, among which some works of exceptional craftsmanship, such as the rod tripods and four-sided stands (FIG. 2; Papasavvas 2001; Papasavvas 2013), became increasingly common in rich

tombs (Keswani 1989: 533, 579; Sherratt and Sherratt 1991: 365–7, 372). Bronze artefacts appear by this time to have taken on greater importance as symbols defining wealth and high status.

Compared to gold and silver, bronze appears to have been less important for the production of prestige artefacts for most of the Late Bronze Age. Because of the disproportionate values of precious metals and of base ones, such as copper, relatively small quantities of gold or silver were traded for much larger amounts of copper (cf. Sherratt and Sherratt 1991: 361; Webb 2005: 181). Furthermore, Egyptian and Near Eastern texts reveal that copper and bronze were much undervalued in relation to precious metals (Zaccagnini 2000: 147–9). To mention just one example, in the Annals of Ramesses II, the established conventions for recording tribute or booty place gold and silver at the top of the lists, while copper comes last (Cline 1995: 146–7). In Egypt, for the larger part of the New Kingdom, the ratios of gold:silver:copper were settled at 1:2:200 (Janssen 1975; Helck 1975: 270–5; Kemp 1991: 245), while in some later Ugaritic texts the equivalence of gold:silver:copper can be deduced as 1:4:800 (Heltzer 1978; Stieglitz 1979: 18, 20). Some calculations based on the values of gold, silver and copper in New Kingdom Egypt demonstrate that the vast cargo of copper oxhide ingots on the Uluburun ship (Pulak 2000), amounting to almost 10 tons of metal, would be roughly equivalent to some 50 kg of gold, while the later prices at Ugarit would bring this amount down by four times, that is roughly to 12.5 kg (Papasavvas 2012: 123–5).

These imbalances might denote a relative devaluation of copper, even in the land where it was produced, especially when increased internationality and the influx of luxurious, imported materials and artefacts, in particular made in gold, might have brought about this effect on local society, i.e. the adoption and emulation of foreign material behaviours. This might have eventually led to a halt in the development of the local bronze industry during much of the Late Bronze Age, and might have fostered a desire to acquire whatever copper could be exchanged for, even if in far lesser quantities. Just like

precious metals, bronze could be used for the manufacture of elaborate artefacts, the main difference being that its main component, copper, was much cheaper, and could consequently be used for the production of much larger quantities of any type. This feature might have been greatly appreciated in the 13th century BC, when larger groups of individuals operating within the expanded urban centres of the Mediterranean had gained access to wealth resources.

The escalation of bronze-working in the Late Cypriot IIC period is linked to the adoption of new ways of consuming a widely available local commodity, which, unlike precious, imported materials, were not subject to the economic instabilities of the external markets. In this way, copper and copper alloys acquired on Cyprus a new value and status, that is a new role in society, linked to their use in ceremonial, sacred or profane, contexts. The status of copper and, as a result, of bronze was in this period transformed from that of a base metal primarily destined for export, to that of a material which could be used not only for utilitarian objects and weapons, but also for prestigious artefacts, in a less costly, albeit not unimpressive, mode. This development could be coined as the *institutionalization* of bronze,

so as to match the aspirations of a rapidly changing Cypriot society (Papasavvas 2012).

ACKNOWLEDGEMENTS

It is a great honour for both of us to be a part of this tribute to Gerald Cadogan and we would like to thank the Editors for the invitation to contribute. We both initially got to know Gerald through his publications on the archaeology of our islands, Cyprus and Crete. Then we were fortunate to meet Gerald in person and eventually become good friends as well as colleagues. I (Kassianidou) participated in the excavation of Maroni-Vournes directed by Gerald almost twenty-five years ago. During that field season not only did I meet Gerald, but also other members of his team including Colin Macdonald, Jan Driessen and Sturt Manning, with whom I have since collaborated in a number of projects. I (Papasavvas), although from Crete, actually met Gerald several years ago on Cyprus. From the beginning we felt like kindred spirits, as we share the same affection and research interests in these two great Mediterranean islands.

2. Two sides of a bronze four-sided stand from Cyprus (Kourion?), British Museum (Inv. no. 1920/12-20/1).



BIBLIOGRAPHICAL REFERENCES

- Antoniadou, S., 2005. 'The impact of trade on Late Cypriot society: a contextual study of imports from Enkomi', in J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*. Levant Supplementary Series 2. Oxford: 66–77.
- Artzy, M., 1998. 'Routes, trade, boats and nomads of the sea', in S. Gitin, A. Mazar and E. Stern (eds), *Mediterranean Peoples in Transition: Thirteenth to Early Tenth Centuries BCE*. In Honor of Professor Trude Dothan. Israel Exploration Society. Jerusalem: 439–448.
- Buchholz, H. G., 1979. 'Bronzene Schaftrohrkränze aus Tamassos und Umgebung', in V. Karageorghis, H. W. Catling, K. Nicolaou, A. Papageorgiou, M. Louloupis, D. Christou and I. Nicolaou (eds), *Studies presented in memory of Porphyrios Dikaos*. Nicosia: 76–88.
- Cline, E. H., 1995. 'My Brother, My Son: rulership and trade between the Late Bronze Age Aegean, Egypt and the Near East', in P. Rehak (ed.), *The Role of the Ruler in the Prehistoric Aegean*. *Proceedings of the Annual Meeting of the Archaeological Institute of America, New Orleans, Louisiana, 28 December 1992*. Aegaeum 11: 143–50.
- Crewe, L., 2007. *Early Enkomi. Regionalism, Trade and Society at the Beginning of the Late Bronze Age on Cyprus*. BAR-IS 1706. Oxford.
- Dikaos, P., 1969–71. *Enkomi. Excavations 1948-1958*, Vols. I-IIIb. Mainz.
- Doonan, R. C. P., Cadogan, G. and D. Sewell, 2012. 'Standing on ceremony: The metallurgical finds from Maroni Vournes, Cyprus', in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC. A conference in honour of James D. Muhly*. Nicosia 10th-11th October 2009. Oxford: 48–57.
- Du Plat Taylor, J., 1952. 'A Late Bronze Age settlement at Apliki, Cyprus', *AntJ* 32: 133–67.
- Gale, N. H., 2011. 'Copper oxhide ingots and lead isotope provenancing', in P. P. Betancourt and S. C. Ferrence (eds), *Metallurgy: Understanding How, Learning Why*. *Studies in Honor of James D. Muhly*. Prehistory Monographs 29, INSTAP Academic Press, Philadelphia: 213–20.
- Gale, N. H. and Z.-A. Stos-Gale, 1999. 'Copper oxhide ingots and the Aegean metals trade. New perspectives', in P. Betancourt, V. Karageorghis, R. Laffineur and W.D. Niemeier (eds), *Meletemata. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as he enters his 65th Year*. Aegaeum 20: 267–77.
- Goring, E. S., 1996. 'Jewelry from an intact tomb. Evidence from Late Bronze Age Cyprus', in A. Calinescu (ed.), *Ancient Jewelry and Archaeology*. Bloomington and Indianapolis: 26–34.
- Hadjisavvas, S., 2011. 'Broken Symbols: aspects of metallurgy at Alassa', in P. P. Betancourt and S. C. Ferrence (eds), *Metallurgy: Understanding How, Learning Why*. *Studies in Honor of James D. Muhly*. Prehistory Monographs 29, INSTAP Academic Press, Philadelphia: 21–7.
- Helck, W., 1975. *Wirtschaftsgeschichte des alten Ägypten*. Cologne.
- Heltzer, M., 1978. *Goods, prices and the organization of trade in Ugarit. Marketing and transportation in the eastern Mediterranean in the second half of the II Millennium B.C.E*. Wiesbaden.

- Janssen, J. J., 1975. *Commodity prices from the Ramesside period: an economic study of the village of Necropolis workmen at Thebes*. Leiden.
- Kassianidou, V., 2008. 'The formative years of the Cypriot copper industry', in I. Tzachilli (ed.), *Aegean Metallurgy in the Bronze Age. Proceedings of an International Symposium held at the University of Crete Rethymnon, Greece, on November 19-21, 2004*. Athens: 249–67.
- , 2009. '“May he send me silver in very great quantities” EA 35', in D. Michaelides, V. Kassianidou and R. S. Merrillees (eds), *Proceedings of the International Conference Egypt and Cyprus in Antiquity*. Nicosia, 3-6 April 2003. Oxford: 48–57.
- , 2011. 'Blowing the wind of change: the introduction of bellows in Late Bronze Age Cyprus', in P. P. Betancourt and S. C. Ferrence (eds), *Metallurgy: Understanding How, Learning Why*. *Studies in Honor of James D. Muhly*. Prehistory Monographs 29, INSTAP Academic Press, Philadelphia: 41–7.
- , 2012. 'Metallurgy and metalwork in Enkomi: the early phases', in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC. A conference in honour of James D. Muhly*. Nicosia 10th-11th October 2009. Oxford: 94–106.
- , 2013. 'The production and trade of Cypriot copper in the Late Bronze Age – an analysis of the evidence', *Pasiphae. Rivista di filologia e antichità Egge*, VII: 133–46.
- Kemp, B. J., 1991 (reprinted). *Ancient Egypt. Anatomy of a Civilization*. London and New York.
- Keswani, P. S., 1989. 'Dimensions of social hierarchy in Late Bronze Age Cyprus: an analysis of the mortuary data from Enkomi', *JMA* 2.1: 49–86.
- , 1996. 'Hierarchies, heterarchies, and urbanization processes: the view from Bronze Age Cyprus', *JMA* 9.2: 211–250.
- , 2004. *Mortuary Ritual and Society in Bronze Age Cyprus*. Monographs in Mediterranean Archaeology. London.
- Kitchen, K. A., 2009. 'Alas(h)i(y)a (Irs) and Asiya (Isy) in ancient Egyptian sources', in D. Michaelides, V. Kassianidou and R. S. Merrillees (eds), *Proceedings of the International Conference, Egypt and Cyprus in Antiquity*. Nicosia, 3-6 April 2003. Oxford: 1–8.
- Kling, B. and J. D. Muhly, 2007. *Joan du Plat Taylor's Excavations at the Late Bronze Age Mining Settlement at Apliki Karamallos, Cyprus*, SIMA 94.1.
- Knapp, A. B., 1998. 'Mediterranean Bronze Age trade: distance, power, and place', in E. H. Cline and D. Harris-Cline (eds), *The Aegean and the Orient in the Second Millennium*. *Proceedings of the 50th Anniversary Symposium, Cincinnati, 18-20 April 1997*. Aegaeum 18: 193–207.
- Knapp, A.B., 2011. 'Cyprus, copper and Alashiya', in P. P. Betancourt and S. C. Ferrence (eds), *Metallurgy: Understanding How, Learning Why*. *Studies in Honor of James D. Muhly*. Prehistory Monographs 29, INSTAP Academic Press, Philadelphia: 249–254.
- Liverani, M., 1987. 'The collapse of the Near Eastern regional system at the end of the Bronze Age: the case of Syria', in M. Rowlands, M. Larsen and K. Kristiansen (eds), *Centre and Periphery in the Ancient World*. Cambridge: 66–73.
- Liverani, M., 1990. *Prestige and Interest. International Relations in the Near East ca. 1600-1100 BC*. History of the Ancient Near East / Studies—1. Padua.

- Monroe, C. M., 2009. *Scales of Fate. Trade, Tradition, and the Transformation in the Eastern Mediterranean ca. 1350–1175 BCE*. Alter Orient und Altes Testament 357. Münster.
- Moran, W., 1992. *The Amarna Letters*. Baltimore.
- Muhly, J., 1989. ‘The organisation of the copper industry in Late Bronze Age Cyprus,’ in E. Peltenburg (ed.), *Early Society in Cyprus*. Edinburgh: 298–314.
- Papasavvas, G., 2012. ‘Profusion of Cypriot copper abroad and dearth of bronzes at home: reflections on a paradox in Late Bronze Age Cyprus,’ in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC. A conference in honour of James D. Muhly. Nicosia 10th–11th October 2009*. Oxford: 117–28.
- , 2013. ‘Cypriot metalwork of the Late Bronze Age’, in *Pasiphae. Rivista di filologia e antichità Egge*, VII: 169–78.
- Peltenburg, E., 1996. ‘From isolation to state formation in Cyprus, c. 3500–1500 BC’, in V. Karageorghis and D. Michaelides (eds), *The Development of the Cypriot Economy: From the Prehistoric Period to the Present Day*. Nicosia: 17–44.
- , 2008. ‘Nitovikla and Tell el-Burak: Cypriot mid-second millennium BC forts in a Levantine context’, *RDAC*: 145–57.
- , 2012a. ‘King Kušmašusa and the decentralised political structure of Late Bronze Age Cyprus,’ in G. Cadogan, M. Iacovou, K. Kopaka and J. Whitley (eds), *Parallel Lives: Ancient Island Societies in Crete and Cyprus*. BSA Studies 20: 345–51, 360–63.
- , 2012b. ‘Text meets material in Late Bronze Age Cyprus’, in A. Georgiou (ed.), *Cyprus: An island culture. Society and social relations from the Bronze Age to the Venetian period*. Oxford: 1–23.
- Pickles, S. and Peltenburg, E., 1998. ‘Metallurgy, society and the Bronze-Iron transition in the east Mediterranean and the Near East’, *RDAC*: 67–100.
- Pulak, C., 2000. ‘The cargo of copper and tin ingots from the Late Bronze Age shipwreck at Uluburun’, in Ü. Yalçın (ed.) *Anatolian Metal I*. Der Anschnitt 13, Veröffentlichungen aus dem Deutschen Bergbau-Museum 92. Bochum: 137–57.
- Pulak, C., 2008. ‘The Uluburun Shipwreck and Late Bronze Age Trade’, in J. Aruz, K. Benzel, J. M. Evans (eds), *Beyond Babylon. Art, Trade and Diplomacy in the Second Millennium BC*. New York: 289–385.
- Sherratt, S., 2000. ‘Circulation of metals and the end of the Bronze Age in the Eastern Mediterranean’, in C. F. E. Pare (ed.), *Metals Make the World Go Round: The Supply and Circulation of Metals in Bronze Age Europe. Proceedings of a conference held at the University of Birmingham in June 1997*. Oxford: 82–98.
- Sherratt, A. and S. Sherratt, 1991. ‘From luxuries to commodities: the nature of Mediterranean Bronze Age trading systems’, in N. H. Gale (ed.), *Bronze Age Trade in the Mediterranean. Papers Presented at the Conference held at Rewley House, Oxford, in December 1989*. SIMA 90: 351–86.
- South, A., 2012. ‘Tinker, tailor, farmer, miner: Metals in the Late Bronze Age economy at Kalavassos’, in V. Kassianidou and G. Papasavvas (eds), *Eastern Mediterranean Metallurgy and Metalwork in the Second Millennium BC. A conference in honour of James D. Muhly. Nicosia 10th–11th October 2009*. Oxford: 35–47.
- Stieglitz, R. R., 1979. ‘Commodity prices at Ugarit’, *JAOS* 99.1: 15–23.
- Webb, J. M., 2005. ‘Ideology, iconography and identity. The role of foreign goods and images in the establishment of social hierarchy in Late Bronze Age Cyprus’, in J. Clarke (ed.), *Archaeological Perspectives on the Transmission and Transformation of Culture in the Eastern Mediterranean*. Levant Supplementary Series 2, Oxford: 176–82.
- Weinstein Balthazar, J., 1990. *Copper and bronze working in Early through Middle Bronze Age Cyprus. SIMA Pocket Book 84*. Jonsered.
- Zaccagnini, C., 1987. ‘Aspects of ceremonial exchange in the Near East during the late second millennium BC’, in M. Rowlands, M. Larsen and K. Kristiansen (eds), *Centre and periphery in the Ancient World*. Cambridge: 57–65.
- , 2000. ‘The interdependence of the Great Powers’, in R. Cohen and R. West (eds), *Amarna Diplomacy. The Beginnings of International Relations*. Baltimore: 141–53.