

# POTS AND POLITIES

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IT IS A PLEASURE TO SERVE AS DISCUSSANT for this splendid collection of papers on Minoan pottery, published in honor of Philip Betancourt. Pots and indestructible potsherds, however humble, form the backbone of archaeology. Phil's encyclopedic works on the subject and advice and support for colleagues have played a major role in the advancement of knowledge of Minoan ceramics.

For over a century, Minoan pottery has been studied stylistically and stratigraphically. In recent years, it has been studied scientifically as well. Philip Betancourt's own pioneering work coordinating the technical study of Vasiliki Ware, East Cretan White-on-Dark pottery and the ceramic material from his excavation at Pseira is exemplary in this regard. Several of the papers presented in this colloquium provide the opportunity to assess the significance of the skillful scientific examination of pottery for our understanding of Bronze Age society and history.

Let us consider the papers presented in chronological order, beginning with the important contribution by Peter Day, Maria Relaki and Edward Faber. Their paper raises fundamental questions about the nature and context of Minoan specialized craft production, and hence about Minoan society and Minoan polities. Their discovery of high-skill craft continuity of great specificity in the production of pottery in central Crete from the end of Early Minoan I to the end of the Old Palace Period in Middle Minoan IIB—a span of about 1,000 years—may shed light on such questions as whether palatial society was the product of a steady process of development, as Warren and Branigan have argued, or was instead the result of a quantum leap at the time of the creation of the first palaces, as proposed by Cherry.<sup>1</sup> Does the discovery of complex craft continuity by Day et al. imply a substantial degree of stability in society over this long period, at least in south-central Crete, and perhaps also the protection and support of potters by Prepalatial local or regional authorities, or rather the survival of on-going local potting practices persisting through changes in the scale and symbolism of

*Philip Betancourt, Keith Branigan, Elizabeth French, Sturt Manning, Nicoletta Momigliano, Aleydis Van de Moortel and Peter Warren kindly read drafts of this paper and made many helpful comments, for which I am most grateful. Harriet Blitzer and Karen D. Vitelli provided welcome advice regarding anthropological studies of pottery practices.*

1. Warren 1975; Branigan 1970; Cherry 1983.

production, yet otherwise unaffected by major political and organizational changes?

There is no evidence for massive destruction or abandonment of Knossos or Phaistos during the long span of Early Minoan to Middle Minoan before the destructions at Knossos and Phaistos caused by earthquakes at the end of MM IIB/beginning of MM IIIA, which mark the close of the Old Palace Period.<sup>2</sup> Not all areas are so fortunate: Vasiliki, Myrtois-Pyrgos and Phournou Koriphi suffer destructions at the end of EM IIB. In east-central Crete, Malia, Gournia and Mochlos undergo changes at the end of EM or beginning of MM, possibly as a result of an area-wide earthquake that also affects Knossos. Watrous has suggested that EM III saw an island-wide decline; if so, adverse climatic conditions in the Near East, Egypt, mainland Greece, the Cyclades and possibly Crete itself may be among the causes, together with destructions and disturbances in these areas in EM III, perhaps themselves partly related to drought.<sup>3</sup> Knossian imports of pottery from the Mesara appear to decrease in EM IIB–EM III, based on the incomplete evidence available.<sup>4</sup> Many doubt the occurrence of an EM III decline, however. Burials spanning the course of a millennium in individual tholos tombs (such as those at Moni Odigitria in the Mesara Plain to the east of Phaistos) between EM I and MM II suggest the possibility of elite continuity and stability. The Prepalatial appearance in these tombs of foreign imports including Egyptian seals and faience (plus their Minoan imitations using Egyptian techniques) indicates expanding horizons, increasing complexity, and elite interest in luxury products prior to the palaces. In the north, the cemetery at Archanes–Phourni 8 km from Knossos on the slope of Mt. Juktas receives burials from EM II until LM IIIC/Subminoan, a period of over 2,000 years.<sup>5</sup> Toward the end of the Prepalatial in EM III–MM IA, elite burial chambers containing luxury imports, such as Tholos B with its commanding position, appear. (Of course the Archanes–Phourni cemetery may serve only Archanes and not Knossos, where unexplored areas of the Gypsades ridge may hold Pre- as well as Proto- and Neopalatial burials. The site of Archanes–Tourkoyeitionia near Phourni shows evidence of occupation from Early to Late Minoan.<sup>6</sup>)

The nature of Prepalatial settlement at the sites of Phaistos and Knossos poses various problems, not least because the Kephala Hill was leveled to permit the building of the palace at

2. Knossos seems to suffer some damage, uncertain in extent and cause, at the end of EM III/beginning of MM I and again at the end of MM IA, as well as some burning in MM IIA. Mackenzie 1906; Momigliano 2000; Macdonald (forthcoming). I am grateful to Nicoletta Momigliano for bringing the Knossian evidence to my attention, to Sandy MacGillivray for further comments on the destruction history of Knossos, and to Philip Betancourt for his comments concerning the EM III destructions in east-central and eastern Crete.

3. Watrous 2001, 179–80; Curtis et al. (forthcoming); Forsén 1992, 241–7.

4. Momigliano 2000.

5. Maggidis 1998, 87.

6. Maggidis 1998, 87.

Knossos.<sup>7</sup> Current excavations near the palace at Phaistos indicate major Prepalatial occupation with all phases represented, including the first great ramp at the palace in EM III and four stratified levels with major building activity in MM IA.<sup>8</sup> Earlier excavations disclosed remains of EM II buildings over an area of 3,400 sq m at Phaistos, and the presence of EM III/MM IA.<sup>9</sup> Nearby Hagia Triada has substantial EM II houses and two EM/MM tholos tombs.<sup>10</sup>

In the final phase of the Prepalatial period during MM IA, tombs at the southern flank of the Mesara Plain in the general vicinity of Phaistos contain both imported early Middle Kingdom Egyptian “white piece” scarabs or scaraboids and Minoan versions utilizing similar material and firing technique, covered with a glaze similar to the Egyptian glaze.<sup>11</sup> A Prepalatial polity capable of exchange with Egypt and skilled craft emulation of its products surely could have provided protection and patronage for potters, particularly those producing vessels used in ritual and feasting. Patrikies, halfway between Phaistos and Hagia Triada, yielded large amounts of fine MM I pottery, with many teapots in particular, suggesting the presence of either a ceramic workshop or an area of large ritual feasting connected to nearby tombs.<sup>12</sup> Carinci believes that the nature and amount of MM I pottery found in the area south of Tholos Tomb A at Hagia Triada may indicate a “priestly” source of demand for such pottery.<sup>13</sup> At Knossos tests in Prepalatial levels have disclosed evidence of extensive terracing in EM IIA, and in EM IIA or B well-built house walls plus a paved ramp leading to the top of the hill at the northwest corner of the later palace.<sup>14</sup> In addition, fragments of Egyptian stone bowls and one probably Egyptian rare obsidian bowl have been found in the EM II house deposits at Knossos.<sup>15</sup> EM III–MM IA witnesses further building activity including the monumental construction at the northwest corner of the palace and the significant extension of occupation, sufficient to cause Warren to conclude that MM IA Knossos could be deemed “urban.”<sup>16</sup>

Taken as a whole, the available evidence from central Crete implies the existence of substantial continuing regional or local authorities in the Prepalatial period, capable of maintaining links with ongoing pottery communities. “The articulation of social identities” to which Day et al. refer may have involved elites as well as potters while Day’s putative “common consumption strategies” were surely elite strategies in the main. Whether it

7. Evans 1972, 115.

8. La Rosa 2004; Todaro 2003; 2005; (forthcoming).

9. Pernier 1935, 139–42, pls. XIII–XV; Banti 1939–1940.

10. Banti 1930–1931; Stefani 1930–1931.

11. Phillips 2004, 162–4; Pini 1992; 2000; Wiener 1994.

12. Watrous 2001, 185; Warren 1987, 54; Levi 1976, 747–56; Todaro 2003.

13. Carinci 2004.

14. D.E. Wilson 1994, 37–8, cited in Watrous 2001, 171–2.

15. Warren 1981.

16. Warren 1987, 53; see also Momigliano 1991, 269.

is likely that such links between potters and politics controlled by rulers or ruling elites existed in fact is considered below. It should also be noted that Prepalatial evidence of various craft skills, wide foreign contacts and emerging complexity exists in parts of Crete where evidence of a continuing potting tradition of similar specificity and complexity has not been observed. These include Vasiliki, with its houses of many rooms, storage areas, fine small paved court, painted wall plaster, and metal mold for production of double axes (but a site which suffered a destruction at the end of EM IIB as previously noted);<sup>17</sup> Palaikastro with its monumental EM II structure;<sup>18</sup> Mochlos with its impressive tombs containing exotic and luxurious foreign imports;<sup>19</sup> and Malia, where Pelon has reported finding under room IX 1 of the palace an EM IIA wall on the same orientation as the preceding town, followed by EM IIB walls of rooms on the same orientation as the later palace.<sup>20</sup> Moreover, in EM I and EM II, some of the ceramic production in these and other places was based not on household or small village production for local use as might be anticipated, but rather concentrated in a restricted number of areas, from which some vessels were exchanged over long distances, as Day and Wilson have noted.<sup>21</sup> Soles has suggested that by EM II such traffic may be the result of elite gift exchange.<sup>22</sup>

If connections between established elites and groups of potters in central Crete existed from the end of EM I to the end of MM IIB, what was the nature of their interaction? Day et al. note that the principal locations of production and consumption of pottery may be different. Of course the fact that a type of production occurred outside the precincts of a palace or a Prepalatial center does not necessarily mean that the production in question was wholly, largely, or even partially independent. On the other hand, pottery production immediately adjacent to a palace would seem to imply strong palatial interest and influence at the least, and probably palatial control. Kilns of the Old Palace Period exist in the vicinity of the palace of Phaistos, but whether they were used for the production of pottery is unclear,<sup>23</sup> whereas wasters found in the vicinity of the palace indicate some production close at hand, however uncertain its extent and significance. Walberg suggests that Phaistian palatial elites closely controlled the production of the finest Classical Kamares Ware, utilizing the distinctive pure white paint available from the local steatite,<sup>24</sup> while other white paints were used elsewhere in the Mesara.<sup>25</sup> At Malia in MM II a related

17. Watrous 2001, 170–1; Zoes 1976.

18. Bosanquet 1902; Dawkins 1902–1903; 1903–1904; 1904–1905.

19. Seager 1912.

20. Pelon 1993, 545; I am grateful to Alyedis Van de Moortel for reminding me of the results of these soundings.

21. Wilson and Day 1994, 84–5; Day and Wilson 1998, 353–4.

22. Soles 1992, 156–8.

23. Carinci 1997, 318–9, and n. 9.

24. Walberg 2001, 14.

25. Faber et al. 2002. I am most grateful to Peter Day for calling my attention to this reference.

polychrome pottery was produced at Quartier Mu, within sight of the palace, although pottery from a wide variety of other sources is found there as well.<sup>26</sup> At Knossos, the closest known kiln lies 3 km south of the palace at an excellent clay source near Archanes.<sup>27</sup>

Day et al. of course acknowledge the striking innovations in pottery production coincident with the beginning of the Old Palace Period, including the dramatic change in vessel decoration, the use of the potter's wheel, and the making of such exceptional products as Eggshell Ware. Some may even consider the pottery created from these innovations a quantum leap in technological and aesthetic ambition. The role of palatial demand—whether stemming from a desire for fine wares for display and feasting, for the affirmation of identity or for items suitable for high-level exchange—in spurring innovation remains a critical question, together with the extent of palatial control of the production.

In the Neopalatial period evidence of ruling/elite interest in pottery available for feasting may be seen in an LM IB Linear A tablet from Hagia Triada [HT 31] listing various vessels including 3,710 conical cups.<sup>28</sup> One area adjacent to the palace at Knossos contained so many LM I conical cups that Evans' workmen called it the "Kapheneion."<sup>29</sup> It seems likely that provision of vessels for feasting was always of ruling/elite interest, from the pouring and drinking sets already prominent in EM I, especially at Knossos, as described in Day and Wilson,<sup>30</sup> to the matching sets of eating and drinking vessels, large numbers of shallow bowls and elaborate pouring vessels of late EM IIA, to the fine sets of Kamares pouring and drinking vessels in the Protopalatial period, to the mass-produced vessels of the Neopalatial. The MM IB "Royal Pottery Stores" at Knossos at the beginning of the Protopalatial period contained both high quality painted polychrome vessels and very roughly modeled and poorly decorated drinking vessels, perhaps reflecting the different classes of society participating in feasts, while in the Neopalatial period even the conical cups of Knossos showed marked differences in competence of manufacture, ranging from ordinary to dreadful, perhaps resulting from the need to provide vessels for large numbers of participants of all classes in ritual feasts.<sup>31</sup> Apart from the provision of feasting equipment, securing a supply of storage and transport vessels would also likely have been a palatial concern. Levi found large numbers of such vessels in the Old Palace at Phaistos. In the Final Palatial Period one fragment of a Linear B tablet from the early IIIA2 destruction at the palace of Knossos lists 1,800 stirrup jars; when whole, the tablet may have listed still more.<sup>32</sup>

26. Knappett 1997.

27. MacGillivray 1987, 276.

28. Godart and Olivier 1976, 58–9.

29. Evans 1928, 308.

30. Day and Wilson 1998, 354.

31. Momigliano 2000; Knappett 1999.

32. I am grateful to Philip Betancourt himself for reminding me of these two references to palatial storage vessels. See Levi 1976, figs. 157–9; Betancourt 1985, 159–60.

Later still, in the different society and administrative system of mainland Greece,<sup>33</sup> Mycenaean Linear B tablets from the palaces of Pylos and Mycenae refer to five potters in all, and in the case of Pylos to a royal potter (*wanakteros kerameu*) who holds land that he can lease. Three other potters at Pylos are mentioned, one by name. At Mycenae one tablet refers to a potter in the dative.<sup>34</sup> It has been suggested that the number of potters mentioned is small in relation to the number of pots found in the palace at Pylos and at Mycenaean sites in general.<sup>35</sup> Whitelaw notes that an estimated 8,450 pots were recorded in the destruction level of the palace, many stacked in pantries and never used; he estimates the total annual requirement of the palace for pots of all types at around 12,000. Given the anthropological evidence from preindustrial societies for the amounts of pottery produced per workshop and individual potter discussed below, the number of vessels proposed as the annual requirement of the Palace of Nestor appears to be within the production capacity of one potting establishment comprising one or two master potters and some apprentices, with enough pots left over to supply the town of Pylos. Detailed study of the pottery by Hruby for her forthcoming dissertation provides important support for the proposition that the pottery found in the palace was produced by one principal potter or pottery, which produced the finer ware, and perhaps several other potters or potteries, which produced three different coarse wares.<sup>36</sup> Moreover, unlike bronzesmiths who received bronze from the palace for the manufacture of weapons and other products or herders placed in charge of flocks of sheep, potters were unlikely to have received anything from the palace that required tracking by scribes, nor were locally made pots suitable subjects for the collection of taxes from the sixteen Pylian districts recorded in the tablets. Accordingly, the argument for the existence of a large private sector within the Mycenaean economy in other areas (such as metallurgy or foreign trade) based on a purported absence of significant palatial interest in pottery production seems misplaced.

The Day et al. paper asks us to consider the likelihood of ongoing communities of potters. How should we envision the nature of the relationship between such potting communities and the ruling elites, Palatial and Prepalatial, given the elite interest discerned above? The question of “attached” versus “independent” potters has acquired a large archaeological literature covering many cultures.<sup>37</sup> For purposes of this discussion I define the term “attached” to include 1) full-time retainers of a palace or Prepalatial polity, par-

33. Wiener (forthcoming).

34. Palaima 1997, 410 n. 23.

35. Whitelaw 2001; see also Knappett 2001. Galaty 1999 suggests that it was likely that all the fine wares used in the Pylos area were made by one pottery establishment while the coarse wares came from various local sources.

36. I am most grateful to Julie Hruby for providing me with a synopsis of her work prior to publication and permission to make reference to it here.

37. Clark 1995; Costin 1991; Lewis 1983.

ticularly when working in the immediate vicinity, 2) those who are given an estate at a clay source and/or wood for fuel to supply pottery primarily to fill the needs of the ruling center, and 3) those who receive necessities in exchange for a major part of their production. Utilizing this definition, it seems likely that many Minoan potting communities were in some sense attached to the palaces and perhaps even to their Prepalatial predecessors. At the least, palaces and Prepalatial centers probably would have guaranteed the potting communities access to raw materials and to exchange networks. Nevertheless there remains the possibility, particularly in the earlier part of EM, that elites obtained pots through exchanges with wholly independent potters. Potters or potteries independent initially could thereafter have been absorbed into the palatial sphere after the rise of the palaces.

The Day et al. paper also reminds us that vessels in the Prepalatial period are already metal-imitating, particularly with regard to late EM IIA high-quality drinking assemblages of Fine Gray Ware (FGW) and Fine Painted Ware (FPW), but with the tendency perhaps beginning already in EM I. The Early Minoan metal prototypes of these vessels, however, are absent. Of course metal in any form has been melted down throughout history. The amount of trade in metal indicated in the Assyrian Trading Colony records is staggering, but the amount of metal found in the *karums* is very small. In the Bayeux tapestry, every warrior is shown clad in mail, but none of it has ever been found, except perhaps for one cheekpiece. In seventeenth-century Portugal, many middle-class households had a silver brazier, but only six have been reported to exist today.<sup>38</sup> There must have been numbers of Minoan Prepalatial metal vessels that have not survived. Such vessels are further evidence of Prepalatial foreign contacts, given the absence of tin and paucity of copper in Crete. Philip Betancourt's own recently completed excavation of the EM III metallurgical site at Chrysokamino shows the precociousness of metallurgy on Crete, as does the evidence of metallurgy at Hagia Photia and Poros in late EM I. Of course there is a strong case to be made that what we see at Hagia Photia, Poros and even at Chrysokamino is in reality Cycladic metallurgy in the hands of Cycladic immigrants, but the EM II metal mold from Vasiliki represents an advanced technique so far unmatched elsewhere in the Aegean, as Branigan has noted.<sup>39</sup> The presumed existence of metal vessels in Prepalatial Crete, or at least detailed knowledge of them, again suggests wide Prepalatial horizons, given the relative scarcity of copper and absence of tin in Crete noted above.

Aleydis Van de Moortel's fine paper on the pottery of the Kamares Cave follows easily upon the contribution by Day et al. She finds, as do Day et al., that pottery travels widely in Crete in the Old Palace Period. Her observation that the Kamares Cave included pot-

38. D.M. Wilson 1985, 221; Gruber 1982, 232.

39. Branigan 1974.

tery from the island of Gavdos, a natural stopping place for Phaistian ships, is intriguing given the fact that polychrome Kamares is found in Egypt and the Levant. Jeremy Rutter's paper, considered below, reports the presence of Gavdiot imports at Kommos in Old Palace, New Palace and LM II contexts. Perhaps Gavdos specialized in pottery production to compensate for a lack of other resources.<sup>40</sup> Van de Moortel notes that Kamares Ware is not limited to the palaces and their related sanctuaries, but rather is also found in the townhouses of Phaistos, Hagia Triada, Kommos and Knossos. Such pottery is not found, however, at ordinary inland houses or farmsteads, nor indeed at Cretan sites other than Phaistos and its immediate vicinity, Knossos, and ports such as Gournia and Palaikastro where ships may have stopped en route to foreign ports.<sup>41</sup> When found abroad in Egypt or the Levant, Kamares Ware appears not in palaces or temples but in what appear to be private houses.<sup>42</sup> Such findspots, however, do not necessarily imply the absence of state involvement. When, for example, Amenhotep III sent the Kassite ruler Burnaburiash in Babylon at least 1,007 stone vessels filled with unguents or other liquids plus 160 empty stone vessels, some of the stone vessels were distributed within Babylon and others were exchanged elsewhere.<sup>43</sup> Vases may also arrive in the context of "captains' trade," for ships' captains and crews often traded for themselves on voyages organized by state authorities or by persons connected to the rulers.

In connection with the appearance of Kamares at sanctuaries, I would note the discovery of a fragment of a fine Kamares polychrome vessel in the cave of Zas on the highest point of Naxos, the largest island of the Cyclades.<sup>44</sup> The vessel in question must have been carried for about six hours from the point on the seashore where it arrived until the bearer reached the cave on the top of the island, which suggests that the cave of Zas was a ritual site, like the Kamares Cave itself, rather than merely a place where shepherds on the adjacent upland plain took shelter. Of course the Kamares Cave deposit was itself a specialized assemblage, as Van de Moortel's study reveals, given the relative infrequency of cups and bowls compared to any normal domestic deposit. Van de Moortel also notes the paucity of lamps from the cave, for which a number of reasons may be suggested, such as the possible presence of a perpetual fire, providing warmth in the cave and/or playing a role in cave cult, perhaps involving the contrast of dark and light. Alternatively, because the cave is not totally dark, celebrants may have relied on guides who knew every step and had no

40. I am grateful to Sturt Manning for this suggestion.

41. Walberg 2001, 17. In one instance at Knossos, polychrome Kamares was found in what the excavator described as the basement of "a substantial building" whose superstructure had disappeared; hence the status of the building is unclear (Popham 1974, 188 and fig. 7; Van de Moortel 2002).

42. Kemp and Merrillees 1980, 235; Van de Moortel, personal communication.

43. Wiener 1991, 327; Moran 1992, 32-3; Knudtzon 1915, 118-9; Lilyquist 1996, 156.

44. Konstantinos Zachos and Angelika Douzougli, personal communication for which I am most grateful.



need of lamps. That the intensive use of the Kamares Cave began not in MM IA but in MM IB at the time of the creation of the first palace at Phaistos, and declined notably after the destruction of the first palace at the end of MM IIB, is a further important discovery of this fine research project.<sup>45</sup>

Next in chronological order is a most interesting paper by Eleni Banou and Eleni Tsivilika describing the results of the current excavations at the MM II–MM III port site of Pera Galenoi, 22 km west of the port of Knossos at Poros, and 29 km east of Stavromenos, the natural northern entrepôt (along with Rethymnon, 12 km farther to the west) for the Amari Valley with its southern anchor at Phaistos. The Amari contains the major sites of Monastiraki and Apodoulou founded at the beginning of the Old Palace Period, whose sealings and pottery (including the storage pithoi discussed in Kostandinos Christakis' paper considered below) among other finds indicate direct links with Phaistos. (The scarcity of occupation in the fertile if remote Amari Valley in the New Palace Period after the intense Phaistian settlement in the Old Palace Period constitutes a major puzzle of Minoan prehistory; relevant factors may include putative climate change leading to improved conditions in the Mesara versus occasional flooding and difficulties of access to the Amari in the New Palace Period and the decline of Phaistos in MM IIIB–LM IA.) Banou and Tsivilika's paper reports that the pottery of Pera Galenoi is influenced by Knossos from its foundation in MM IIA, as it so clearly is after MM IIIA, whereas Van de Moortel remarked in the discussion following the presentation of the paper that in her view the pottery from Pera Galenoi illustrated in the presentation had Phaistian features prior to the end of MM IIB (when Phaistos, Monastiraki and Apodoulou were destroyed). Further examination of the MM II pottery from the site should clarify this question.

In any event, the small port site of Pera Galenoi had wide links, as shown by the excavation of a sherd thought highly likely to be from a Syrian amphora and two sherds with potters' marks known from Hagia Eirene on Kea as described in the paper by Banou and Tsivilika. Warren<sup>46</sup> has noted that the town of Sissi near Pera Galenoi is known today for its production of ladanum, the perfume made from the cistus plant, suggesting the possibility that Pera Galenoi could have been involved in the transport and perhaps the production of ladanum in Minoan times. Recent research on residues has shown that in MM IA oil of iris was produced at Chamalevri on the ridge behind the next port to the west at Stavromenos.<sup>47</sup>

Banou and Tsivilika's excavation revealed that Pera Galenoi was destroyed early in the MM III–LM I transition (perhaps by the same massive earthquake that caused considerable

45. Small amounts of LM from the Kamares Cave are reported in Dawkins and Laistner 1912–1913; Kanta 1980, 112.

46. Personal communication, for which I am most grateful.

47. Tzedakis and Martlew 1999, 50–1 nos. 12–3, 19.

damage elsewhere in central Crete and the early LC I seismic destruction at Akrotiri on Thera) and was never reoccupied. The damaged remains on the hillock of Pera Galenoi would have been difficult to repair or remove. Perhaps the putative Knossian Neopalatial dominance over Crete and the surrounding seas made the site superfluous because it was no longer deemed necessary to occupy every harbor, or at least not this particular harbor near a natural Knossian/Phaistian boundary.

The splendid paper by Kostandinos Christakis on traditions and trends in pithos production and consumption covers both the Proto- and Neopalatial periods. His fine-grained analysis may serve as a warning against facile assumptions regarding pottery production, trade and use. Potters as well as pots move—the paper notes, for example, that itinerant potters from Phaistos may have traveled to Monastiraki and Apodoulou in the Protopalatial period—while large undecorated storage vessels may be shipped long distances, even when local examples are available at the point of destination. Blitzer has shown that this latter phenomenon continued into the twentieth century A.D.; in the 1920s, large pithoi were produced in a village on a low hilltop in Messenia, rolled down the hill to sailing vessels, and shipped as far as Alexandria and Anatolia. (Some were also shipped to Crete, where they were often preferred because the bottoms of the locally produced pithoi could fall out.)<sup>48</sup> The potential complexity of the picture is illustrated by Christakis' discovery that at Galatas Pediados in MM III, pithoi may have been produced by three different potters or groups, two of whom imitated Knossian prototypes, one employing local clays similar to those used in the Knossos-Archanes area and the other the characteristic local red and orange clays. The third pithos-maker followed the local pottery tradition rather than the Knossian in shape and decoration.

Christakis' paper also shows that by LM I a new type of pithos derived from the pottery tradition of north-central Crete (large and ovoid with a wide mouth and decorated with rows of raised bands) appears in both north- and south-central Crete and becomes *par excellence* the storage container favored in palatial and elite contexts. No great care was given to the making of these pithoi, however, as can be seen in their unsmoothed surfaces and irregular appendages. Pithoi as well as conical cups continue to display the low or limited labor-input pottery practices of MM IIIB.

Particularly intriguing in this regard is Christakis' observation that many of the morphological and decorative attributes of these pithoi were adopted by potters on Thera. That Thera followed Knossian practices and examples in this regard even when the Knossian product was hardly worthy of emulation is suggestive, particularly in the context of the simultaneous wholesale adoption of Minoan massive use of conical cups, presumably

48. Blitzer 1990.

in feasting rituals, along with Minoan kitchen ware and Minoan-type loom weights.<sup>49</sup> We must of course allow for the possibility that the pots were produced by Minoan potters, whether immigrant or itinerant, perhaps working alongside natives. (In 1885 the traveler Bent reported that the celebrated potters of Siphnos traveled extensively: "In the spring-time they start on their travels far and wide, and settle in towns and villages for days and weeks until the place is supplied with large well-made earthenware amphoras and cooking utensils; and it is an ancient art which has never left the island."<sup>50</sup>) Furumark long ago noted a Cycladic trend in LC I and II toward what he regarded as a " 'soulless and wholesale imitation' of Cretan pottery, culminating in the 'degeneracy and death of local ceramic art.' "<sup>51</sup> Davis and Lewis add that the decline in quality and labor-input per pot begins at the end of Middle Bronze, just as it does in Crete.

Of course high labor-input pots are never entirely lacking in Minoan Crete. Classical Kamares appears to continue at Knossos for about a generation after the MM IIB destruction,<sup>52</sup> and roughly the same pattern may pertain in the Mesara.<sup>53</sup> A post-Kamares phase follows, and is in turn followed by the fine wares of LM IA. Nevertheless, the drastic decline in MM III in the quality of much of the pottery, and particularly that found in the palace of Knossos itself, is striking. Hood describes the pottery in the palace as "unbelievably squalid in character," and notes the contrast to the pottery found in the surrounding houses in MM IIIA.<sup>54</sup> With respect to utilitarian vessels, the decline may begin at Knossos before the end of the Protopalatial period, as Van de Moortel has noted.<sup>55</sup> Indeed, a good part of the explanation for the overall dramatic decline in labor-input per pot by MM IIIB may lie simply in the rise to dominance of Neopalatial Knossos. The New Palace period at Knossos provides abundant evidence of rituals involving mass feasting, requiring enormous numbers of ordinary, low-input vessels, some less costly to make than to wash and keep. In this last respect I am of course thinking of my old favorite, the omnipresent conical cup, capable of holding liquid for only about five minutes before becoming permeated.<sup>56</sup> Warren has estimated Knossian production of conical cups in the Neopalatial period at a minimum of 100,000 per year!<sup>57</sup> Knappett has noted that conical cups produced at Malia and Myrtos-Pyrgos in LM I are more uniform than those from Knossos with respect

49. Wiener 1990, 134–40.

50. Bent 1965, 22–3, originally published in 1885, cited in Lewis 1983, 65.

51. Furumark 1950, 199, as quoted in Davis and Lewis 1985, 79.

52. MacGillivray 1998, 95.

53. Walberg 1991, 117.

54. Hood 1996, 10.

55. Personal communication of 8 August 2003.

56. Lewis 1983, 110.

57. Personal communication of 6 August 2003; see generally Wiener 1984.

to such features as the width of side walls, and never descend to the depths of potting carelessness or incompetence displayed by some of the cups produced at Knossos; he suggests that the numbers of cups needed at Knossos for its feasting rituals may account for the difference.<sup>58</sup> It is hard to imagine that the palatial elites used any conical cups in feasting ceremonies; rather it seems likely that they used the metal vessels we see depicted in the Egyptian tomb paintings of arriving Keftiu.

The production of every category of pottery is affected, however. Population growth; changes in numbers of participants and customs involved in feasting rituals requiring mass production of pots for pouring, storing and transporting as well as for eating and drinking; changes in expectations regarding pottery as its use in feasting encompassed significantly broader segments of the populace; new or more widely attended funerary rites requiring masses of conical cups;<sup>59</sup> and Evans and Pendlebury's old favorite, increased elite access to metal vessels in the Neopalatial period,<sup>60</sup> may be invoked as stimuli for the general decline in quality across all pottery shapes (subject to the few exceptions noted) throughout central and east-central Crete, from Malia to Phaistos, beginning in MM IIIA and accelerating in MM IIIB.<sup>61</sup> The mass production necessary to meet greatly expanded demand would itself have required increased routinization of activity and division of labor; whereas an individual master potter may have previously been responsible for all stages of production of a particular pot, now various stages—preparing clay, forming, finishing and firing—may have been in different hands. It seems likely, for example, that apprentices were assigned the tasks of preparing clay cones and slicing conical cups off the hump with string. Less significant factors may have included Neopalatial expansion resulting in Minoan communities living abroad,<sup>62</sup> leading to increasing emigration or itinerant travels of potters, thus thinning the ranks in potting communities, while skilled pot painters may have found expanding employment opportunities in the field of wall-decoration—there are strong similarities, notably on the foliate bands, between the color and motifs of Kamares Ware and the wall paintings of the first palace at Phaistos.<sup>63</sup>

Competition between independent potters resulting in efforts to lower labor costs, presumably in order to be able to offer wares for less in exchange, has sometimes been proposed as an explanation for the change both in Crete and in Kea, particularly in light of the fact that all categories of pottery are affected, notwithstanding the general tendency of

58. Knappett 1999, 416–7.

59. Wiener 1990, 138–40.

60. Evans 1921, 553; Pendlebury 1963, 158. For the large quantities of bronze available in the Neopalatial period, see Wiener 1990, 145–50.

61. Van de Moortel 2002, esp. 204.

62. Wiener 1990.

63. Boulotis 1995, fig. 8, cited in Day and Wilson 1998, 356.

competition to produce quality enhancement rather than decline.<sup>64</sup> In that case it might be expected that at least one of the putative competing independent potters would continue to produce high labor-input pottery to fill an elite demand niche, if such a niche and the requisite skill had continued to exist. Had Neopalatial elites considered it important to display pottery requiring high labor-input and high skills, it seems likely that the means could have been found. (As noted above, some more labor-intensive pottery is produced in MM III, perhaps in the same pottery workshops as the greatly preponderant low labor-intensive wares.<sup>65</sup> Even conical cups came in a better version, smoothed and dipped in paint, perhaps reducing their porosity.<sup>66</sup>)

Would Hagia Eirene on Kea, with its estimated population of 300–400 people,<sup>67</sup> have supported competing cost-cutting independent potteries, even considering the masses of locally produced conical cups found there?<sup>68</sup> Curtis<sup>69</sup> reports that potters in remote traditional potting villages using the wheel and working with apprentices who haul wood and prepare clay can produce 500 pots per master potter per day,<sup>70</sup> which for a potting season of 100 working days could mean 50,000 pots per year. Lewis has observed that an individual potter working alone and part-time on Siphnos produced 500 pots per month, or about 2,000 per pottery season, enough to provide five to seven pots per person annually for the estimated population of Hagia Eirene. (Perhaps the potters' marks noted<sup>71</sup> on Keian pots identified the work of individual potters sharing a kiln.) Conical cups cut off the hump can of course be produced by apprentices much more quickly, at a rate of well over 100 per hour.<sup>72</sup>

Not all LM I storage pithoi displayed unsmoothed surfaces and irregular appendages, however, for Christakis reports that the very large pithoi in the Palace of Minos itself, in contrast to those in the surrounding houses, were made with care and covered with original appliqué patterns. Initially it might seem that an explanation should be sought in the cultic function of the palace, since we do not ordinarily think of distinguished visitors observing the furnishings of storerooms. Christakis offers a different explanation, namely that visitors to the palace did indeed visit the West Magazines, where these exceptional

64. Van de Moortel 2002, 203; 2001, 110; Davis and Lewis 1985; see also Rathje 1975. Declines in labor input in pottery during the Ubaid and Uruk periods in the Near East are considered in Falconer 1993.

65. Hood 1996, 10–1; Knappett 1997, 309.

66. Knappett 2001.

67. Wiener 1990, 132.

68. Wiener 1990, 137–8; Schofield 1979.

69. Curtis 1962.

70. Lewis 1983, 53.

71. Bikaki 1984.

72. I am grateful to Veronica Hankey Newman for information concerning her experiments in reproducing conical cups.

pithoi would have formed part of what he suggests was a “scenographic setting” for the display of stored wealth. He observes that the West Magazines had “gypsum floors, walls lined with gypsum slabs, gypsum jamb bases, finely plastered walls with frescoes” and planned patterns of lighting, plus the direct communication to the Central Sanctuary Complex. (Whether the fragments of miniature fresco painting found sealed in the lower stratum of cists in the Thirteenth Magazine by Evans in 1904 were originally attached to any of the walls of the Magazines and, if so, whether the frescoes were in place in LM I or were painted later in the course of a Creto-Mycenaean refurbishing in LM II, has been discussed by Cameron and Immerwahr, among others. Cameron favored an LM II date for the fresco fragments, whereas Immerwahr, who had available as comparanda LC I frescoes from Thera and Kea discovered post-Cameron, considered the fragments from the Thirteenth Magazine cists to be LM I.<sup>73</sup> The entrance to the adjoining Twelfth Magazine was covered with plaster and two painted dado bands of Venetian red over bluish gray at 86 and 147 cm above the floor surface;<sup>74</sup> it is this decoration in particular that Christakis regards as LM I in origin.<sup>75</sup>) The fact noted by Christakis that one of these carefully made Palatial Style pithoi was found at Petras on the east coast of Crete may support his interpretation of conspicuous consumption rather than religious respect as the reason for their production.

Continuing chronologically, we come finally to the important and thought-provoking paper by Jeremy Rutter on “Southwestern Anatolian Pottery from Late Minoan Crete: Evidence for Direct Contacts Between Arzawa and Keftiu?” Rutter reports that at Kommos by far the most common ceramic import in LM II–LM IIIA was pottery from southwest Anatolia. He notes further that a similar number of such jugs have been identified from LM II contexts at Knossos in the pillared hall of the Unexplored Mansion, together with one additional example from the Temple Tomb. His research reveals that the jugs from Kommos and Knossos of this unusual fabric have their closest parallels in jugs common at sites such as Panaztepe, Bayraklı and Limantepe at the eastern end of the Gulf of Izmir.

The 2002 excavations at Limantepe and Çeşme (not far from ancient Erythrai with its Minoan foundation legend) provided evidence of additional Aegean settlements on the Anatolian coast, established earlier but continuing into the fourteenth–thirteenth century B.C. At Miletus what had once been a flourishing Minoan colony, with 95% of its pottery Minoan or Minoan-imitating, in the course of Late Helladic IIIA1 becomes largely Mycenaean, with 95% of its pottery reported by the excavator to be Helladic or Helladic-

73. Immerwahr 1990, 64, 162, 173; Cameron 1975.

74. Evans 1935, 650–1 and fig. 634.

75. Personal communication of 27 August 2003.

imitating, but with evidence of both Mycenaean- and Minoan-type kilns in operation and some Late Minoan IIIA1 imports as well. Pottery evidence from the tombs along the Anatolian coast also suggests an ongoing Creto-Mycenaean presence.<sup>76</sup>

Certainly it would not be surprising to discover that there were Anatolian imports flowing toward Crete in LM II and IIIA1, as Rutter's paper implies. It is interesting to learn that these vessels exist in Kos but have not been found to date in Rhodes, for in "Isles of Crete"<sup>77</sup> I proposed the existence of two LM I Minoan trading networks going toward the east, one leading via the heavily Minoan site of Trianda in Rhodes toward Cyprus and the Levant, the other going from the Seraglio in Kos, also heavily Minoan, to Anatolia. Further evidence of a trade route running from Crete to the coast of Anatolia via Kos in LM/LB I comes in the form of Minoanizing pottery appearing in some quantity at Iasos and Miletus, which petrographic and chemical analysis identifies as Koan. Additional examples of this ware have been found at Kalymnos and Knidos along the same proposed route, and from Akrotiri on Thera and Hagia Eirene on Kea as well. Koan wines were praised in the classical period; perhaps they were also exported in LB I in these containers.<sup>78</sup> Of course Kos would still have been the natural stopping point en route to the Anatolian coast in LM IIIA1, when the jugs from the Gulf of Izmir region appear in Kos and in Crete. LM IIIA1 exports from Crete appear not just in Kos, however, but also in Rhodes, at Ialysos and Trianda.<sup>79</sup> Rutter's paper notes that no examples of the Arzawan jugs of the type found in the Gulf of Izmir region have as yet been recognized from mainland Greece. (Of course unrecognized sherds may be lurking undiscovered in excavation "puzzle boxes," or may have been discarded by excavators.) It is worth noting in this regard that Arzawa reaches the peak of its power around 1370 B.C., when Egyptian texts recognize the land as an important political ally,<sup>80</sup> just as Knossos is destroyed and the importation of Arzawan pottery into Crete appears to end.

We should not assume that the Arzawan jugs found in Crete and the Minoanized sites abroad beginning in LM II or the Minoanizing Koan jugs found in Arzawa traveled on Minoan or Creto-Mycenaean vessels, for the Arzawans were known for their shipbuilding skills. The daily logs at the shipyard at Perunefer, the port city of Memphis during the reign of Tuthmosis III (1479–1425 B.C.) and his successor, Amenophis II (1428–1397 B.C.), record Arzawans at work.<sup>81</sup>

Recent years have seen great advances in our knowledge of the geography of Anatolia

76. Müller-Celka 2005.

77. Wiener 1990.

78. Marthari et al. 1990; Knappett 2003; W.-D. Niemeier, personal communication, for which I am most grateful.

79. Watrous 1992, 173; Mee 2002.

80. Haider 2003, 180.

81. Haider 2003, 177.

in the Late Bronze Age and of Aegean activity in the area.<sup>82</sup> References to the land of Ahhiyawa and its king appear in Hittite texts of the late fifteenth/early fourteenth century B.C. Manning has suggested that the capital of Ahhiyawa at this time may even have been located at Knossos, before moving to the Greek mainland prior to or immediately upon the destruction of Knossos early in LH/LM IIIA2.<sup>83</sup> However that may be, it seems likely that Creto-Mycenaeans played a significant role in Aegean interactions with Anatolia in LM II–III A1. (By the time of the Mycenaean maxima of LH IIIA2 through IIIB1, c. 1370–1240 B.C.,<sup>84</sup> following the Knossos destruction early in IIIA2, exchanges between mainland Greece and the East become more prominent, but the presence of at least some Creto-Mycenaean settlers along the Anatolian coast in this period is suggested by tomb types similar to types known from Crete, their lack of Mycenaean mainland-style figurines, and their mixture of inhumation and cremation burials typical of LM IIIA2–IIIB cemeteries in Crete.<sup>85</sup>) Rutter notes that the Anatolian jugs arriving in Crete are again clearly metal-imitating, and that the prototype for their shape may be found in LM I metal vessels. We may accordingly be witnessing a process involving Minoan forms introduced into Anatolia by Neopalatial Minoan settlements such as Miletus influencing later Aegeo-Arzanian output in the late fifteenth and fourteenth centuries B.C., with some of the resulting ceramic output returning to Crete.

Of course the splendid papers presented here, and especially my reflections on them, are open to the objection that we are suffering from a *déformation professionnelle* of pottery specialists in forming sweeping historical conclusions on the basis of ambiguous ceramic evidence. You, gentle reader, must be our judge. In any event, the fact that this Gold Medal Colloquium in honor of Philip Betancourt inspired so fine and important a set of papers on Minoan pottery is itself a fitting tribute to the honorand.

82. See, e.g., Hawkins 1997–1998; Niemeier 1998a; 1998b.

83. Unpublished conference comments and personal communication for which I am most grateful. My thanks are due also to Jerry Rutter for reminding me of this comment.

84. Wiener 2003.

85. See Müller-Celka 2005.



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MALCOLM H. WIENER

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