related to consumption activities. The open areas in Sector I were used for the manufacture of obsidian blades and stone vases as well as the preparation of food and keeping domestic animals. The pattern displayed by the obsidian from House I.1 is similar to other domestic contexts in Eastern Crete and characterized by a low frequency with 58 blades. The lack of waste material is explained by the fact that cores arrived on site as prepared products from which the occupants made their own blades.

The study of the cooking wares from Petras confirms previously identified distinctions between East and South-Central cooking wares and also suggests that cooking or other activities involving fire and embers/charcoal were taking place on a significant scale. Remains of cattle, pigs, sheep, goats, dogs and deer were recovered from EM II to LM III contexts, but the main assemblages date to LM I. A greater concentration of bones was noted in external or peripheral areas and the larger the sample, the wider the range of species and body parts represented. It is interesting to note that the animal bones show no dismembering marks but traces of burning suggest that more or less complete carcasses were roasted. Loomweights testify to the specialized production of textiles made with very thin to thin thread. The majority are discoid and cuboid and Cutler suggests that these could have been used in the manufacture of two different types of cloth, respectively dense, balanced textiles and weft-faced fabrics, or together in order to produce a pattern weave.

In all, 267 vases from Sector I bear potter's marks, an amount equal to the amount found at Malia, the majority of which are Neopalatial in date. Such marks are attested from the MM IB/MM IIA period onward and during the entire Neopalatial period. Although figurines from domestic contexts are generally rare on Crete, House I.1. yielded 13 bovine figurine fragments, while an anthropomorphic torso was found in House I.2.

The high standard of excavation and publication of the site of Petras is to be applauded. This publication and the forthcoming ones of the settlement at Petras will provide an indispensable tool for scholars interested in studying the social, political and economic organisation of a central place and its hinterland in East Crete.

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Haggis, D. 2007. Stylistic diversity and diacritical feasting at Protopalatial Petras: a preliminary analysis of the Lakkos Deposit. *American Journal of Archaeology* 111: 715–775.

Tsipopolou, M. (ed.) 2012. *Petras, Siteia: 25 Years of Excavations and Studies. Acts of a Two-Day Conference held at the Danish Institute at Athens, 9–10 October 2010* (Monographs of the Danish Institute at Athens 16). Athens: the Danish Institute at Athens.

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Tsipopolou, M. and E. Hallager 2010. *The Hieroglyphic Archive at Petras, Siteia* (Monographs of the Danish Institute at Athens 9), Athens: the Danish Institute at Athens.

A. Bernard Knapp and Stella Demesticha. *Mediterranean connections: maritime transport containers and seaborne trade in the Bronze and Early Iron Ages*. pp. xiv+263, 49 figs, (6 b/w pls.), 7 tables, 7 maps. 2017. New York and Abingdon: Routledge. ISBN 978–1–629–58354–9 hardback £80.99; 978–1–315–53700–9 eBook from £21.

This is a fairly short but important book that focuses on the part played in seaborne trade by the 'maritime transport containers' of the title (hereafter MTCs). It is packed with data; it is particularly useful to have authoritative accounts of the east Mediterranean material and of the great quantities of information now available from provenance studies and organic residue analysis. Almost inevitably some more recent studies like Stockhammer 2015 (which must have come out as it went to press) have been missed, but in general the coverage of the mass of accounts and studies of the material seems close to comprehensive. The book is produced to quite high standards, with a sturdy hard cover, and contains numerous illustrations and maps; the place names on the latter are often in notably small print, but still legible. The reviewer has spotted very few errors, but it does seem worth commenting that Dr Televantou's name is twice misspelt on p. 6, and that Cicones is the name of a people, not a person (p. 146).

MTCs are defined as types of ceramic vessel which were specially produced to be suitable for transporting goods in bulk by ship, the predecessors and to a considerable extent the ancestors of the amphorae that were so common in the historical Greek and Roman world. They require skilled potting, since they must be manufactured in a fabric that is or can be made watertight, so as not likely to interact with the contents, and they must be assembled from separate sections because of their size. They tend to have narrow necks, to make sealing them easier, and a body with two opposite handles on or near the shoulder, that can be elongated in developed examples to a foot small enough to be used like a third handle and so make carrying them and tipping out contents easier. They share some of these characteristics with storage vessels, from which the well-known types often seem to have developed, but many forms of storage vessel have relatively wide mouths and so are unsuitable for more than short journeys. The MTC proper is clearly associated with long-distance trade in liquids like wine and olive oil, also resins, sometimes foodstuffs, and at least once orpiment (a mineral form of arsenic). A wide array is named in Egyptian inscriptions on or about MTCs (pp. 51, 150), but some, like milk or meat, would hardly have kept fresh for very long, so surely indicate local reuse of the container, which could have been quite a common practice.

After a short introduction in Ch. 1, the next two chapters consider different facets of the contexts in which these containers have been found and would have been used. Thus, Ch. 2 deals with actual shipwrecks in the Aegean and East Mediterranean and the harbour and port sites where the ships would have called, while Ch. 3 deals on a general level with the mechanisms and social setting, the routes of circulation and the time involved, and what commodities were typical. It is important to be reminded how few certain or very likely wreck sites have been found, given the amount of sea-borne trade there evidently was by the Late Bronze Age. Only eight are identified as of Bronze Age date in the whole Aegean and east Mediterranean, although the existence of others can be guessed at from finds of metal ingots, as off Kyme harbour in north Euboea (p. 15) and at Hishuley Carmel south of Haifa (p. 6). The picture becomes even more patchy in the Early Iron Age, when only three certain wrecks have been identified, none in the Aegean (two are in deep water off Ashkelon, of likely eighth century date, one off the coast of southwest Turkey and probably c. 700–650 BC). The reference to a wreck in the Yagana bay off the channel between Ithaka and Kephalonia (pp. 73, 74) is of relevance to the Aegean and particularly interesting, because it contained an early type of MTC, perhaps Cycladic, and so is dated to the later Early Bronze Age, when there are other grounds for supposing local connections with the Aegean. But no comparably early MTCs have yet been reported from other sites in north-west Greece and the Ionian Sea region.

At this point it should be noted that the status of the claimed Early Bronze Age wreck at Dokos in the Saronic Gulf is more questionable than suggested; the doubts expressed best by Broodbank[1] need to be answered. It might seem likely that it includes elements of a wreck, for there is a considerable quantity of fragmentary storage vessels that could be MTCs, but much of the material as reported has a very 'domestic' appearance and, like all the wreck sites apart from the most famous, Cape Gelidonya and Uluburun, it does not include remains of a boat. The other sites, of Middle and Late Bronze Age date (the reference to them all as *Late* Bronze Age or Early Iron Age on p. 166 is clearly an error missed in editing), show a clear predominance of MTC types (full details are cited on p. 156) or, in the case of Cape Gelidonya, relatively few MTCs but a substantial group of metal ingots and bars that are clearly cargo. Great quantities of MTCs and ingots (including many of glass) were found on the late fourteenth century Uluburun wreck, which stands out as an example of international trade at the top level, with a cargo of several valuable materials. Much of this may have been intended for one or more 'palatial' consumers (cf. pp. 157, 166); the possibility that some was a 'gift' at royal level of the kind described in the diplomatic correspondence of the time cannot be ruled out. As the text indicates, an enormous amount of detail is now known about Uluburun, though a full publication is still awaited. Cape Gelidonya, probably late thirteenth century, is more or less fully published, and much is known about the Point Iria site of similar date (Argolid, wrongly labelled Cape Iria on Map 26), but the others are known only from preliminary reports of varying detail (one in an unpublished thesis). All these seem to have been operating at a distinctly lower level than Uluburun; only Cape Gelidonya contained a significant cargo of other materials, and only this and the Point Iria site have produced material that must come from outside the Aegean.

As is indicated in Ch. 3, representations of boats and ships in various media are not uncommon (but the supposedly Early Cycladic lead boat models are unlikely to be genuine,[2] and quite a number of sites

[1] Broodbank 2000, 97.
[2] Cf. Sherratt 2000: 100–02.

in the Aegean may be considered likely ports, where cargoes were loaded and unloaded, but evidence for harbour installations of any kind has been hard to find until recently. Many of the supposed features now underwater near Minoan sites in Crete are in fact undatable, as is pointed out, but plausible ancillary structures have been identified on land. Notable are the complex at Kommos whose origins go back to Middle Minoan times, including now a likely slipway for pulling boats, and possibly larger ships, up for storage,[3] and another Middle Minoan complex recently identified at Gournia; at both, stone anchors like those well known in Cyprus and the Levant have been found (pp. 14–15). On the mainland submerged platforms at Kalamianos on the Saronic Gulf, apparently founded as a port in late Mycenaean times, may well be harbour installations, but the authors are cautious about accepting the claim for a whole artificial harbour at Romanou near Pylos, presumably created in the days of Pylos's importance as a palatial centre (p. 15). It is certainly not impossible, given what is known about Mycenaean engineering work, and it has the support of the Pylos Regional Archaeological Project, but it would be helpful to have corroboration from other experts. Much better evidence for harbour installations can be found at major Levantine towns in the Early Iron Age, when their inhabitants became famous as the Phoenicians.

Much of the meat of the book is in Ch. 4, which covers the history of MTCs in the east Mediterranean in considerable detail. Many types of vessel are discussed, and in several cases the claims that they were MTCs are dismissed, because they do not seem to be of types that were deliberately created for maritime transport and often have features like wide mouths that would hinder their use as such. But the main outlines of development are clear. In the Near East, although some of the earliest evidence for possibly sea-borne trade relates to Egypt (p. 42), the centre of development was in the coastal towns of the Levant, which were already shipping vessels containing liquids to Egypt in the Early Bronze Age. This was the context in which the famous 'Canaanite jar' was developed. It was already common in Egypt in Middle Kingdom times, and a few fragments, of 'probably more than one pot',[4] even reached Middle Minoan Knossos. In the Late Bronze Age versions of the type spread all over the east Mediterranean and reached as far west as Sardinia and as far north in the Aegean as Troy.[5] It was so popular that a local version was developed in Egypt, and it was quite possibly made locally on Cyprus also. Its distribution is patchy in the Aegean, but it occurs in quantity at Kommos, where a Short-necked Amphora seems to have been developed in imitation in Postpalatial times, but has barely been found elsewhere so far (pp. 93–6). The Canaanite jar is also found more sparsely (often in important graves) at about a dozen late Mycenaean sites on the Greek mainland, especially Tiryns, where fragments of 21 are reported from settlement levels, mostly on the Lower Citadel.[6] Some 150 examples of varying sizes were found on the Uluburun wreck, and it continued to be a standard form, changed to a more 'torpedo'-like shape, well into historical times; even larger collections than at Uluburun have been estimated for the two eighth century wrecks off Ashkelon (p. 119).

The development of MTCs in the Aegean was effectively independent of the Near East, but the earliest types, apparently Cycladic in origin and argued to be linked to the development of a regular trading system, necessarily maritime, did not get outside the Aegean orbit (but do appear at Yagana in the Ionian Sea). The next form to become prominent was a Cretan storage jar shape, the Oval-Mouthed Amphora, found in wreck sites near Pseira and close to the island of Elaphonisi off the coast of Laconia, and also as an 'import' in the Egyptian Delta (pp. 77–8). But the most important development in the Aegean was that of the Transport Stirrup Jar (TSJ), developed in Crete in the early Neopalatial period but really becoming prominent in the fourteenth and thirteenth centuries, when it was produced at several Cretan centres and perhaps also in important Mycenaean regions like the Argolid and Boeotia. Finds are distributed in the Mediterranean almost as widely as those of the 'Canaanite jar', but in smaller numbers outside the Aegean, although the total now known is likely to exceed 500. The TSJ was clearly associated with a system of bulk production and export of liquids, often olive oil, whose major significance is underlined by the fact that a proportion of these jars have Linear B inscriptions, although inscribed examples hardly ever appear outside the Aegean (pp. 81–4). Like the 'Canaanite jar', it may quite often have been reused, as might well be suspected in cases where single examples turn up at sites.

Ch. 5 brings all this material together, concentrating particularly on the organisation and mechanisms

[3] Shaw 2018. I am grateful to Prof. J.W. Shaw for sending me a copy of this article, andf for comments on an earlier draft of this review.

[4] MacGillivray 1998, 170.

[5] Their presence at Troy was indicated in the paper published as Pavuk 2005, and they were specifically mentioned as occurring in Troy VIIa in the Mycenaean Seminar given by Pavuk at the Institute of Classical Studies, London, on 9th December 2009.

[6] Stockhammer 2015, 179–81.

of trade using MTCs and the political setting of such trade, and Ch. 6 summarises conclusions. The discussion in these considers important questions such as whether the originating port of ships can be established and whether it matters, and how far those operating the ships were independent of or controlled by the rulers, usually kings, of their home bases – in fact, how far they resembled 'merchants' as we are accustomed to imagine them in historical times. Certainly, the written evidence from the great Levantine trading centre of Ugarit suggests that the most important 'merchants' were members of the elite and might act as agents of the king, but there is no need to suppose that this was true of all ship operators; some of the Aegean wrecks and even Cape Gelidonya may well belong to traders whose activities were much less extensive in range and economic value. But it is worth considering that even such 'ordinary' traders could have been important members of their communities; crewing and maintaining a trading ship is likely to have required substantial resources.

The Mediterranean-wide distribution of the 'Canaanite jar' and TSJ, along with a third type, handleless necked pithoi of considerable size manufactured in Cyprus, which are found on several wrecks and reached Sicily and Sardinia, and the wide range of foreign material found at evidently significant port sites, particularly Kommos, certainly provide speaking evidence of the extent and complexity of the international fourteenth-thirteenth century trade network that distributed MTCs so widely in the Mediterranean. But it should not be forgotten that the MTCs only represent part of the story. The extraordinary treasure trove of the Uluburun wreck and the less impressive but still significant quantities of metal from the Cape Gelidonya wreck remind us that raw materials like metal, especially the constituents of bronze, were also in constant demand, as were luxuries like ivory and glass, which was popular enough for the technology of making it to be spreading into the Aegean and part of Europe at this time. The Aegean was not a great producer of such raw materials, although metal sources of copper, silver and lead were certainly exploited during the Bronze Age, but it was clearly a consumer on a scale beyond what could be met locally; the evidence of MTCs provides some indication of what it had to offer in exchange, supported by rare texts like that concerning the Ugarit merchant Sinaranu, whose ship brought grain, beer and oil from Crete (p. 11).

The widespread troubles in the east Mediterranean and Aegean in the late thirteenth and early twelfth centuries, which included the collapse of the Hittite 'empire' and the 'palatial' societies of the Aegean, and the abandonment of Ugarit and other major centres, effectively brought an end to the Bronze Age system of international trade. The sequel in the Early Iron Age reveals a striking difference between the Levant and the Aegean. In the former, many of the trading towns survived and the 'Canaanite jar' continued to be a standard form, produced in great quantities in its more streamlined form. The links between the east and central Mediterranean may never have been broken; certainly, Levantine traders seem to have been calling at Kommos again, presumably on the way west, as early as the eleventh century, and Crete as a whole retained stronger connections with the Near East than did the surviving centres elsewhere in the Aegean, which seems to have had little attraction for such traders. The decline even in trade within the Aegean is indicated by the disappearance of the TSJ before the end of the Bronze Age, and it is not until the tenth century that any indication of relatively long-distance maritime trade can be identified. By then, locally produced forms of neck-handled, paint-decorated amphora were being carried about quite widely in the north Aegean, and a special connection seems to have been established between Euboea, particularly Lefkandi, and Tyre, where Euboean-style pottery including neck-handled amphorae has been found. But the quantities involved in these movements are very small, and the first evidence for renewed large-scale production of amphorae that could serve as MTCs dates in the eighth century: one type, apparently produced at several centres, continued the north Aegean tradition on a larger scale, while others can be associated with Athens (the very widely distributed SOS amphorae) and Corinth (going mostly to the western colonies). But then and for a long time to come the insistence on local independence ensured that no standard form like the 'Canaanite jar' developed.

Thus, from the Aegean point of view the evidence cited in the book makes very clear an essential difference in experience from the Near East. However much one may wish to qualify the traditional picture of a 'dark age' in the Aegean following the collapse of the Bronze Age civilisations, and to emphasise positive features, it was not until the eighth century that Aegean centres began to be active again in large-scale maritime trade in the Mediterranean. This underlines the reality of the decline, and the close relationship between the renewed involvement in such trade and the revival of general prosperity in the Aegean.

Overall, the great range of this book and the careful and sensible nature of the discussion make it a very

valuable addition to studies of early trade in the Mediterranean.

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Broodbank, C. 2000. *An Island Archaeology of the Early Cyclades*. Cambridge: Cambridge University Press.

Cline, E.H. (ed.) 2010. *The Oxford Handbook of the Bronze Age Aegean*. Oxford: Oxford University Press.

MacGillivray, A. 1998. *Knossos: Pottery Groups of the Old Palace Period.* London: British School of Archaeology at Athens.

Pavuk, P. 2005. Aegean and Anatolians: a Trojan perspective, in R.A. Laffineur and E. Greco (eds) *Emporia: Aegeans in the Central and Eastern Mediterranean. Proceedings of the 10th International Aegean Conference/10e Rencontre égéenne internationale, Athens, Italian School of Archaeology, April 14–18, 2004* (Aegaeum 25): 269–79. Liège: Université de Liège.

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Stockhammer, P.W. 2015. Levantine and Cypriot pottery in Mycenaean Greece as mirrors of intercultural contacts, in A. Babbi, F. Bubenheimer-Erhart, B. Marín-Aguilera, and S. Mühl (eds) *The Mediterranean Mirror. Cultural Contacts in the Mediterranean Sea between 1200 and 750 B.C. International Post-doc and Young Researcher Conference, Heidelberg, 6th-8th October 2012.* RGZM Tagungen Band 20: 177–87. Mainz: Verlag des Römisch-Germanischen Zentralmuseums.

Emily S.K. Anderson. *Seals, craft and community in Bronze Age Crete*. pp. xv+324, b/w illustrations. 2016. New York: Cambridge University Press. ISBN 978–1–107–13119–4 hardback. $70.

After a list of illustrations (191 b/w), acknowledgements, and an introduction, five chapters and a lengthy appendix constitute the core of the book. There then follow references (bibliography), (end)notes, and an index.* The book's introduction and five chapters mostly present anthropological theories and constructions of Cretan society in the late PrePalatial period (ca. 2300–1900 BCE) seen through the lenses of other, presumably similar societies, cultures, and ethnologies as studied by a variety of quoted scholars. The chapter titles give an indication of themes, sometimes promising archaeological data (e.g., 'Identity and Relation through Early Cretan Glyptic' [ch. 2], 'In the Hands of the Craftsperson: Innovation and Repetition across Cretan Communities' [ch. 4]), sometimes teasing the reader with poetic playfulness (e.g., 'Rethinking Prepalatial Crete: Social Innovation on an Island of Persistence' [ch. 1], 'Distance and Nearness: Fundamental Changes to the Dynamics of Seal Use in Late Prepalatial Crete' [ch. 3]).

The book has been out almost three years now, but there has been only one review (that this reviewer knows of), by Borja Legarra Herrero,[1] who concentrates on Anderson's more theoretical treatments of early Cretan society and leaves the glyptic material to specialists. Anderson's Introduction basically presents the entire book's foci, which are often repeated separately in the individual chapters. I give here a summary of her three main points: 1) what was the particular nature of power in Prepalatial Crete? 2) 'Indeed, in a rush to identify marked points of social transformation, not only have we likely failed to recognize the impressive perpetuation of Prepalatial lifeways, but we have also potentially contorted data in a desire to see alteration' (p. 2). And 3) 'I develop an alternative approach to late Prepalatial social dynamics that rethinks the underlying nature of change in this period, seeking its impetus within quietly performed and often neglected practices of sociocultural innovation. (...) (F)undamental developments did take form in people's interactive experience, but they came about by means of ongoing, rhythmic creative processes in daily life' (p. 3). This all seems sensible, although the language Anderson uses marks the difference between her theoretical, comparative anthropological approach and the one that this reviewer favors, a language focused on a single culture and artifacts, namely Minoan seals that drive the discussion.

* Abbreviations for journals and for standard reference works are those followed by the *American Journal of Archaeology*: https://www.ajaonline.org/submissions/standard-reference (accessed 8 June 2019), and for ancient authors by the Oxford Classical Dictionary: https://oxfordre.com/classics/page/abbreviation-list/ (accessed 8 June 2019).

[1] Legarra Herrero 2017.