The Aegean Bronze Age in relation to the Wider European Context

Papers from a session at the Eleventh Annual Meeting of the European Association of Archaeologists, Cork, 5-11 September 2005

Edited by

Helène Whittaker

BAR International Series 1745
2008
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Acknowledgements

I wish to thank Andrea Vianello for his encouragement and help while editing this book. I am also grateful to Gullög Nordquist and Ann-Louise Schallin for informative discussions on the topic of contacts between north and south during the European Bronze Age. I am indebted to Sven von Hofsten for help with the final editing.

Tromsø, November 2007
LATE BRONZE AGE AEGEAN TRADE ROUTES IN THE
WESTERN MEDITERRANEAN

ANDREA VIANELLO

Aegean products reached the shores of the Italian peninsula, Sicily, Sardinia, and Iberia during the Late Bronze Age. Styles of imported pottery suggest that the earliest contacts started during Late Helladic I (LH I), even though only a handful of vessels of earlier styles have been found. Pattern-painted decorated pottery has survived in the largest quantities and is easily recognisable. Notably imported plain wares are rare, and pictorial pottery is almost entirely absent. The current estimate of Aegean pots imported into the western Mediterranean is approximately 500 vessels. A few Aegean-type ceramic figurines, probably representing deities, have been found associated with Aegean pottery. Fragments of a few Cypriot-type bowls and tripods, the latter featuring also in Linear B tablets, have been found with hoards. Copper oxhide ingots, mostly found in Sardinia, have a characteristic shape that clearly distinguishes them from any other object, and for this reason even small fragments have been recognised and reported. At Frattesina there is evidence that exotic objects (for example ostrich eggs), and materials used in the manufacture of luxury items such as glass ingots and ivory were imported. In addition, perishable raw materials – food, spices, oils and dyes – may also have been imported.

The surviving material culture suggests that most contacts between the Aegean and the western Mediterranean involved exchanges of a commercial nature. Pottery vessels probably served as containers and do not seem to have been traded for their intrinsic or artistic value. Most early, undecorated vessels found in the Aeolian Islands, at Vivara and Monte Grande, were broken at the place of arrival. Decorated pottery appears to have been appreciated and occasionally reused, but most decorated pottery of LH III style was produced by Italics and therefore any imports would have been subject to competition. Non-ceramic products can perhaps be traced through a few finds, but the amount imported is difficult to quantify since it is not possible to discern the origins of many raw materials and other products that circulated further afield than the areas typically involved in sea-borne trade. There is no evidence of colonisation or any programme of cultural or political domination enacted by foreigners. As a result, it appears that the influence of Aegean culture in the western Mediterranean probably occurred as a consequence of trade and therefore no distinctive ‘signature’, or any social, political or military programme would necessarily be recognisable. The detailed study of pattern-painted pottery demonstrates that regional patterns, varying throughout time, represent regional consumption attitudes to new products. This particular finding contrasts starkly with the patterns and attitudes observable in the same regions during the Greek and Phoenician colonization period. In the western Mediterranean, the range of imports appears limited and the average number of pots per site is often negligible; raw materials had scarce potential to influence indigenous cultures. This situation is quite different from the ancient Near East, where Aegean products, and especially pottery, are normally found in large concentrations. The influence exercised by products such as pottery and metals continued for a long while in western manufacturing traditions – well into the Iron Age in fact – but it is difficult to detect a similar long-lasting influence in the eastern Mediterranean. There is no doubt that advanced civilizations, such as the Egyptian, would have resisted foreign influence longer than more simple societies –

1 For a detailed overview of all sites that have yielded Aegean-type products, and especially pottery, in the western Mediterranean, the Gazetteer in Vianello (2005, 106-175) provides a detailed summary.
2 Vianello 2005.
3 Vianello 2005, 89.
5 Olivier and Vandenhovee 1979.
6 Vianello 2005, 91.
8 Vianello 2005, 94-96, 125.
9 The Greek colonization of the western Mediterranean can be seen as a unique process, even if single poleis were independently responsible for individual colonies, because all Greeks shared significant traits of the same culture, and colonies were built using a common model. Greek colonies outlined their surrounding space in Greek eyes by maintaining their culture and appearing as civilized ‘hotspots’ in a Barbarian land. They redefined their space from a Greco-centric point of view: Magna Graecia was born (Tsitskhladze and De Angelis 2004).
11 Wijngaarden 2002.
such as theItalic communities. However, the Italics also showed some resistance to Aegean influences: as happened (especially) on theTyrrenian coast among people of Apennine and proto-Villanovan culture. In addition, the Italics seem to have selected the products that they used and imitated. This is particularly evident in the preference for pattern-painted pottery and the consumption of just a few shapes in most areas.  

The exchanges between the Aegean and the western Mediterranean can be best analysed by studying the pottery, because of its frequency in the archaeological record. Ceramic styles also provide the means to use relative chronology to determine the chronological development of the exchanges, and possibly assist the recognition phases. Furthermore, decorated pottery is the easiest Aegean product to recognise and is therefore more likely to have been reported.

In the West Mediterranean two main phases have been detected: MH III/LH I – LH III A 1 and LH III A 2 – C. The distinction is less clear at the periphery: very few vessels found in the western Mediterranean predate LH I, and it seems possible that these were imported during LH I, or even LH II. On one hand, with the exception of the Aeolian Islands and perhaps Monte Grande, all vessels dated to LH I from the other sites may be interpreted as remainders, because of the significantly low quantities, or may have been produced as late as LH II B. Earlier ceramics in the Aeolian Islands can be compared with the production of mainland Greece, dating as early as EH III. Castelluccian ware might have been inspired by early mainland-Greek prototypes, and even in Apulia some wares appear to imitate early Aegean models, although any substantial connection between the two areas before the MH period is unlikely. Since the Aeolian Islands passed through alternate phases of depopulation and repopulation, it seems plausible that ships straying off route, or early explorers, may have found safe harbours in the islands and places to settle. In contrast, the pottery from Monte Grande is in a highly fragmentary condition and although the excavators claim that around 5,000 potsherds have been found, these belong to a substantially lower number of vessels. However the potsherds were not from within a clear stratigraphic context, and some of the plain wares may belong to vessels of local production (mixed with a few Aegean pots), or be of later date. Alternatively for LH III C there is no usable timescale. LH III C pottery is quite frequent in the Italian peninsula but it is a local production based on LH III B 2 Mycenaean pottery and is characteristic of the Early Iron Age in the Italian peninsula. No contemporary Aegean production can really be compared with it. This leaves LH III A as a watershed period because of its significance as regards changing patterns of production and consumption, as well as the fact that such pottery can reliably be identified in the archaeological record.

To understand the dynamics of the exchanges and their influences on peoples of the western Mediterranean, the two phases are repeatedly discussed and a general overview of the first phase on mainland Greece precedes the discussion of the situation in the western Mediterranean. The overview of mainland Greece does not summarise all the available archaeological evidence for that area at that period. Rather, it concentrates on a few specific issues in order to provide some background.

12 Regional patterns of consumption demonstrate that each region had a preference for a few shapes, normally a subset of those Aegean designs that circulated in the whole of the western Mediterranean. At times this preference is also visible from site to site, for example Lipari, which was almost certainly on the same sea-route as other centres (e.g. Thapsos, Antigori, Vivara) but maintained its distinctive pattern. Of particular relevance also are the specific cases of Thapsos and Lipari, as well as the Ionian and Adriatic coasts of Apulia. In both cases the two areas were culturally and geographically close, but the patterns are distinguishable (Vianello 2005).

13 Oxhide ingots are also easy products to identify, but they are hardly representative of all metal objects.

14 Vianello 2005.


16 Tusa 1999, 348-415. See also Bacci 2001 for the interpretation of figurines found near Messina as imitations of Cycladic examples.

17 Gorgoglione, pers. comm.

18 Similarities in ceramic wares of the Aegean and the western Mediterranean earlier than the Late Bronze Age appear in Italic contexts ranging from the Neolithic to the Middle Bronze Age of the southern Italian peninsula and Sicily, and may be coincidental – the product of sporadic contacts. In some cases disturbed contexts may equally be a possibility. It seems possible also that indigenous development of relatively simple vessels in different places and times may have been responsible for some similarities. In addition, it seems probable that any western imitation of Aegean or Eastern products may have been prompted by the occasional arrival of a ship forced off route by storm, or the arrival of a ship with old or obsolete items that may have not been exchangeable in the Aegean. In all cases, any Italic imitation of Aegean products, in absence of regular contacts, would have been probably of later date than the original production time of such materials in their original context. Accepting an exact chronological correspondence between Aegean styles and Italic imitations, before the regular contacts of the Late Bronze Age, would cause serious chronological problems and possible anachronisms.

19 Castellana 1998; Castellana 2000.
to the discussion of the reasons for the initial exchanges with the west Mediterranean.

Mainland Greece, MH III – LH III A

Mycenaeian decorated pottery appears for the first time during LH I and is ‘a diagnostic feature for this phase’ in mainland Greece, where it was used mostly in funerary contexts. Small closed vessels deposited in burials are the commonest LH I decorated pots. The additional labour necessary for the decoration, the context of consumption and the typical shapes suggest that Mycenaean decorated pottery was used to contain precious commodities such as perfumed oils, honey, spices, and wine, which may have been offered to the dead. Mycenaean decorated pottery did not exist before LH I and did not develop in association with any particular meaning, social process or ritual. The development of a new repertoire and style of ceramics is not exceptional in antiquity and does not require the arrival of foreigners, or any other social or political turmoil, for explanation. This occurred, for example, at Iltway in Egypt, at the end of the First Intermediate Period, during the late years of the reign of Senwosret; the reason was a planned policy of ‘renewal for Egyptian culture’. In the case of Mycenaean decorated pottery, it may have been possible that new needs arose with the growth of wealth, but also that the Mycenaean rulers intended to appear equal, if not superior, to others with whom they had relationships. Such a policy would have had an impact on Mycenaean society, as the Mycenaean rulers could have staked a claim on raising the importance of their people in the esteem of others, as they could well have claimed equal political status, and therefore Mycenaean trade may have benefited from this. The employment of decorated ceramics as luxuries may, therefore, also be seen from an economic point of view: the wealthy Shaft Graves of Mycenae clearly imply that Mycenaean politics had sufficient economic surpluses to abandon an economic system geared to subsistence alone.

The source of the sudden wealth detectable in the Shaft Graves of Mycenae is still disputed, but it seems probable that part of that wealth is of foreign origin, even if the individual objects may have been manufactured within Mycenaean Greece. It seems unlikely that the Minoans were the promoters of the exchanges with Transylvania and the Balkans: there is no evidence of products, especially gold, from that region reaching Crete during the Middle and Late Bronze Ages. Since the seafaring capabilities of the Mycenaeans appear limited during the MH III – LH I periods, no territory most easily reached via the Mediterranean from mainland Greece should be regarded as the source of the increase in wealth. Thus, both Crete and the ancient Near East were probably not the providers of Mycenaean wealth: yet commercial and cultural contacts with these lands probably existed and eventually escalated once the Mycenaeans could present themselves as a ‘newly’ civilized land participating in Mediterranean trade. The presence of chariots in the Shaft Graves confirms that there was a connection with the Near East – chariots were not yet widely known in south-eastern or western Europe. However, the connection between the Near East and mainland Greece saw products from the East moving towards Greece, presumably in exchange for Mycenaean wealth. As a result, the commercial exchanges that brought wealth into mainland Greece were probably those with central Europe, particularly the region of Transylvania (modern Romania).

There is evidence of contacts between people of Mycenaean culture and people of the Middle Bronze Age Wietenberg culture of Transylvania. Hoards of the Wietenberg period containing bronze axes and Mycenaean-style daggers (rapiers) have been found at several sites (e.g. Sáromberke, Élak, Gyulafehérvar).

21 Mountjoy 1986, 9.
22 Linear B texts are useful in determining some of the possible commodities stored or transported within decorated pottery.
25 Davis 1981.
26 For an overview of those sites mining gold around the Aegean: Klemm 2005.
27 The creation of ‘citadels’, possible military strongholds modelled on Mycenaean citadels, may be evidence of Mycenaean involvement in the exploitation of mineral resources by organizing local elites capable of controlling production and favouring Mycenaean trade. The frequent spiral decoration found on bone objects (Hütte 1982) and pottery (Vulpe 1975) at Suciu de Sus, and a decorated hearth plaque from Sighişoara (Hänzel 1982) in the region of the Wietenberg culture and neighbouring areas may also be evidence of cultural exchanges with the Mycenaeans. Swords and Mycenaean-style daggers (rapiers) constitute the strongest evidence for contacts between the two cultures. Daggers found in the Wietenberg region are dissimilar from any other objects found in previous or neighbouring cultures except for Mycenaean Greece.
28 Köpeczi, Makkai, Mócsy, Szász and Barta 2001; Davis 1983. Among the hoards found are those from: Cofalva (gold axes), in the area of the Monteoru culture; Persijari (gold swords and daggers in two hoards, some clearly of Mycenaean style), in the area of the Tei culture; Tufalău (copper and gold items); Măcin (two Mycenaean-style gold daggers with rivet holes).
Davis notes that Mycenaean-style objects are mostly weapons, and suggests that the Transylvanian people were probably seeking bronze swords and other similar weapons. In exchange, the Mycenaeans may have received gold weapons which were modelled on items received and it would therefore have been in essence the exchange of Transylvanian gold weapons for Mycenaean bronze weapons (although it is unknown if weapons made in the two materials were actually exchanged like-for-like). This is possible, as gold was relatively abundant in Transylvania and only a limited number of bronze weapons would have been necessary for a relatively small geographical area. In addition, Mycenaean warriors may have been present in Transylvania to help protect the exchanges, as perhaps were those Mycenaeans detected on board the Uluburun ship. By protecting their partners they added to the value of the weapons. If that was the case, then the number of gold weapons available could have matched the number of required bronze swords, making possible a like-for-like exchange of the two materials. Such exchanges could have been symbolic to some degree, as the real ‘added value’ the Mycenaeans would have provided would have been the service their warriors offered by providing protection. Gold, being very malleable, is inadequate for any purpose requiring strength and resilience. This was certainly known to both the Mycenaeans, who are not known to have used gold weapons, and the Transylvanians. Thus, the Transylvanian gold weapons were not functional, nor did they imitate indigenous weapons. It is possible that gold weapons were produced specifically for exchange and to be seen very much as equivalent and worthy items to be exchanged with status equals — a social and political convention that may have been very important to both sides. Since gold had greater value than bronze on mainland Greece and the ancient Near East, like-for-like exchanges of bronze items for gold ones could well have accounted for the sudden appearance of wealth associated with the Shaft Graves of Mycenae.

Two events disrupted this political and economic scenario: the invasion of Tumulus- (Hügelgraber-) culture people in Transylvania, which pushed the existing Transylvanian populations to the north, and the eruption of the volcano on the Cycladic island of Thera. Both events are of uncertain date, but both had important effects on Mycenaean enterprises in the Mediterranean.

The movements of peoples in central Europe disrupted gold supplies, because either the Mycenaeans were pushed out of those territories or the local people required more weapons to defend themselves — and the exchange rate had to be reviewed. It is also possible that the Transylvanians realised that gold had a superior market value than earlier thought and wanted to profit themselves accordingly. The whole exchange system was based on the fact that the Mycenaeans acted as intermediaries between the Near Eastern markets and central European populations where gold had a low value in one market and a high value in the other. Once the difference in value between the two markets of gold and other exchanged commodities diminished, the Mycenaeans would simply not have had an interest in continuing to act as intermediaries between those two areas, and probably significantly reduced their trade from central Europe via Transylvania. Indeed, the wealthy Shaft Graves period (MH III – LH II A) did not last long in terms of relative chronology and its end is not associated with any particular catastrophic event on mainland Greece.

The eruption of Thera, dating approximately to LH I, did not affect the region directly. However, the eruption seems to have affected the sea routes to the north of Crete, probably causing considerable damage to most harbours in the area. The absolute chronology of events is impossible to determine with any certainty. The eruption of Thera’s volcano should be the most reliable of the dates obtained, but it is instead contested and the possible range of dates spans roughly a century (ca. 1663 – 1599 BC) according to scientific analyses, and, significantly, this range excludes the period 1550 – 1500 BC suggested by using the traditional chronology of Egypt to date pumice found at Tell el-Dab’a, north-eastern Egypt, and the pumice seen in depositional contexts with Cypriot White-Painted VI ware at Tell Kabri (Palestine). The resulting situation may have provided the Mycenaeans with the possibility of dominating the Aegean after the Cycladic and Minoan control of that area probably weakened. Most importantly, the Minoan ships might have been temporarily prevented from navigating waters north of Thera, leaving the northern routes open to Mycenaean and Cycladic ships only.

To sum up, the Mycenaeans faced an entirely new political and economic scenario at the end of the Shaft

29 1983, 34.
30 Pulak 2005, 93.
Graves period. Although each event probably happened at some chronological distance from the others and it is impossible to order them, it appears that the Mycenaeans had the opportunity to emerge as a new regional power and they took it. On the northern side of Mycenaean Greece, central Europe, and especially Transylvania (Dacia), were a source of wealth that for some reason was becoming uneconomic or otherwise inaccessible. However, the Mycenaeans must have been aware at some stage that beyond that region there were more peoples and possibly new markets to access. On the southern side of Mycenaean Greece, the Aegean became accessible to newcomers. About the same time that the Shaft Graves are discontinued, the Mycenaeans establish extensive links with the Cycladic islands and Cyprus, probably bolstering links with seafaring communities and gaining valuable experience in seafaring, unconstrained by any other regional power – such as the Minoans. The latter did not disappear, but by not exercising control (even for a few years) over the northern Aegean, they could not prevent the formation of a Mycenaean fleet and probably had to accept its existence thereafter.

Analyses have proved inconclusive so far in determining the provenance of the earliest Aegean-type pottery at Vivara,42 it is possible that at least part of the pottery was locally produced by Aegean people residing on the island. At Vivara archaeologists have unearthed at least 43 potsherds of Levantine (Canaanite) pottery (Fig. 1c), which would be the largest concentration of such pottery in contexts possibly earlier than LH III. Undecorated pottery is found on the Aeolian Islands, where 155 potsherds have been reported.43 However 97 of these are classified as ‘fine decorated pottery’ and this category may contain undetermined fragments counted as both decorated and undecorated.44 At Lipari, Minoa (Cretan) and Cycladic pottery has been found, but there is no evidence of Canaanite or other Levantine fine or decorated wares.45 Undecorated and monochrome pottery is also found at Monte Grande, but since the site was a workshop and the pottery was consumed (and broken) in place, there is no evidence of any impact that Aegean-type pottery had on the local population, nor can we be sure of quantities or the chronology: at least one fragment of Canaanite pottery has been found.46

The largest concentrations of LH I – II B pattern-painted Aegean-type pottery are also found on the Aeolian Islands and Vivara. On the Aeolian Islands there are over 80 vessels of this period in Lipari (Fig. 2), and about the same number of vessels at Filitudi (Fig. 3) are in styles current during the LH I – III A 2 period (Fig. 4). At Vivara (Fig. 5), 144 vessels have been reported and their style spans from LH I to LH III A 1 (Fig. 1). It is therefore possible to conclude that LH I – II B Aegean-type pottery is found in very limited amounts across the western Mediterranean and is largely concentrated in three areas: the Aeolian Islands (Lipari and Filitudi), Monte Grande in Sicily, and Vivara (three sites being excavated on the small island) near modern Naples. All three sites have yielded LH III pottery, but the excellent work in recording the stratigraphy undertaken by Bernabò Brea and Cavalier on the Aeolian Islands rules out that LH I – II B pottery was imported along with LH III pottery: clean strata with only pre-LH III pottery have been excavated at Filitudi.47 Thus early exchanges between people involving vessels of Mycenaean culture and Italics probably took place from LH I. It seems important to notice that Canaanite pottery was included with the exchanged assemblages at Vivara and Monte Grande, a miniscule amount of Cycladic and Cretan pottery was exchanged at Lipari, but no Cypriot pottery has been detected for this early period. The amounts of

38 Amber was arriving on mainland Greece via northern Greece during the period of the Shaft Graves. Harding and Hughes-Brock 1974.
40 Vianello 2005, 213 (table 15). The table refers to non-pattern painted pottery.
41 Ibid.
43 Re (1999) has counted undecorated pottery across the central Mediterranean independently.
44 Ibid.
45 Vianello 2005.
46 Castellana 1998; Castellana 2000.
LH I – II B Aegean pottery are quite modest at all of the Italic sites and probably all such vessels were imported.

Vivara and Monte Grande appear connected in some way, because at both sites Levantine pottery has been found and the context of usage indicates that the vessels were broken on or at the point of arrival and rarely circulated. However, the geographic position of the sites suggests that the route followed by the ships probably bordered the southern Italian peninsula, possibly with a port-of-call at the now destroyed site of Punta Torno (modern Taranto), or at Roca Vecchia on the Adriatic coast. The passage then divided near the Strait of Messina, with one route reaching Monte Grande and another Vivara, via the Aeolian Islands. A sea route to Vivara from the Strait of Messina avoiding the Aeolian Islands would have required the circumnavigation of Sicily and a long journey across the open sea. No traces of Aegean ships have been found for this period on the western coast of Sicily. Alternatively, some ships simply may not have stopped at the Aeolian Islands, but this is highly unlikely: the Aeolian Islands were obviously a safe stopover for Aegean ships in a territory largely unknown. Thus, the Aeolian Islands were an intermediate port-of-call to both Monte Grande and Vivara, which appear to have been termini of the routes. The possibility that the Aeolian Islands were a gateway\(^{48}\) site to the others may explain the different behaviour recognisable in that area from the other two sites.

All three sites are volcanic areas and therefore volcanic products may have been sought by Aegean traders. This may sound far-fetched considering that such materials were historically sourced from Cycladic Islands such as Melos and Thera, but as a result of its volcanic cataclysms Thera, at least, was certainly inaccessible between LH I and II B, and access to Melos may also have been disrupted. There is a social explanation for the choice of these sites: all three provided access to many populated regions but were themselves sparsely populated areas. At Monte Grande there is no evidence of a settlement, as the extraction of sulphur deterred any permanent settlers; the Aeolian Islands were suffering periodic depopulation and at least some of them were at times abandoned; and Vivara was a tiny island without any particular natural resources. They were three locations where Bronze Age people would hardly have wanted to visit or reside; they may have appeared to ancient eyes as barren places in the middle of nowhere. Thus they were ideal places for foreigners to visit and eventually settle peacefully. This point of view also explains why Aegean ships did not stop near Mount Etna, which is obviously a closer and easily recognisable volcano, when volcanic products (such as sulphur) were being sought. There is also an economic perspective to the choice of these sites. As we have seen, Monte Grande could have been important only for its sulphur, an essential natural resource then as now.\(^{49}\) Aegean-type pottery was discarded there and this means that consumption took place in situ, even if there was no settlement in the immediate surroundings. Thus it is possible that almost no exchanges of pottery with the indigenous population occurred there: the same Aegean people who arrived there may have consumed the cargoes. The settlers may have been self-sufficient, at least for periods, until the establishment of peaceful contacts with the indigenous people for the acquisition of fresh supplies that would have been brought into Monte Grande from some settlement. It is also possible that the Aegean people managed to extract sulphur by themselves. Of course exchanges with the local population must have occurred at some point, because the same ceramic evidence shows that pre-LH III material was mixed with contemporary Castelluccian ware. However if the resource sought was sulphur, it would have been obtained directly at the point of extraction and therefore its value should not be overstated: there was plenty in the area. Also, the type of exchange was direct and immediate, without intermediaries. It is impossible at present to ascertain exact amounts, but by counting the easily distinguishable Mycenaean decorated pottery there would have been tens of pots rather than the thousands reported by the excavators.

Aegean ships stopped their travels to Monte Grande early in LH III A 1, although they were obviously transiting nearby en route to Cannatello. The early abandonment of Monte Grande by the Aegean people was probably due to the reopening (for extraction and trade) of the Cycladic sources of sulphur. Thus Monte Grande seems to provide a strong case for supporting the idea that the early exchanges were motivated by economic interests, and that it is, perhaps, the site at which the reasons for the Aegeans’ interest is clearest.

The strategic position and depopulated state of the Aeolian Islands would have been ideal for Aegean merchants to use as permanent bases. Pottery was obviously an exchanged commodity in the islands – no clay is available and so either the raw material or the manufactured vessels have always been imported there. The depopulated state signalled by the periodic abandonment of some islands suggests that the workforce was minimal and their probable activities were fishing,

\(^{48}\) A ‘gateway' site here is any location along an exchange network used as a port-of-call en route to other locations that are part of the same network, but unreachable using the same route. Gateway sites so intended were at the crossroads of different sea and land routes; examples are the Aeolian Islands and Punta Torno.

\(^{49}\) For an introduction to the many uses of sulphur: Meyer 1977; Müller and Krebs 1984.
gathering, basic animal husbandry, and, perhaps, subsistence farming. Seafaring capabilities and continued exchanges must also have been essential and everyday activities. By establishing an extensive exchange network, probably larger than needed for mere subsistence, the settlements had to be protected from pirates and raiders. The earliest settlement to be located on a hill was that at Montagnola di Capo Graziano, which replaced the nearby coastal settlement of Piano del Porto; Montagnola has also yielded some of the earliest Aegean-type pottery. The early Capo Graziano pottery has been found at many sites across eastern Sicily and the southern Tyrrhenian coast of the Italian peninsula, and demonstrates commercial links with peoples in all the surrounding lands.

Only a few products probably departed the islands for exchanges, but little was needed in return. It is unlikely that Aegean ships bothered to sail so far for the little that the islands could offer. The islands were, though, located in an ideal position for Tyrrhenian and Sardinian ships so that the Aeolian Islands could have acted as exchange sites for Tyrrhenian and Sardinian products from the north and Sicilian products from the south. However ships coming from the south and east, such as Aegean vessels, would have had access to the islands of Malta, Ognina, and, perhaps, Pantelleria, which also acted as regional gateways at the time, before reaching the Aeolian Islands. Since it appears that Aegean ships ignored those islands, it seems that the Aegean people were more interested in northern products than Sicilian ones. It should be noted that, with the arrival of Aegean ships in the Aeolian Islands, the Sardinian presence apparently decreases rapidly and also the presence of people from the Italian peninsula appears to drop until the LH III arrival of the Ausonians. All this evidence suggests that the Aegean traders had no interest in the products that were exchanged on the islands surrounding Sicily; they appear rather to have had an interest in tapping specific resources (sulphur from Monte Grande), or reaching directly people who might provide what they needed without any mediated contact. Such a strategy is clearly a commercial one: direct access to production areas means stable supply at the lowest cost, and it is also possible to exercise some control on the production itself.

The possibility that Aegean people settled in order to facilitate the exchanges is best demonstrated by the only building in the western Mediterranean that can be convincingly related to Aegean architecture – the Tholos of San Calogero (Fig. 6).

Vivara acted as a terminus for Aegean ships and there is scarce evidence that Aegean products travelled beyond the little island. Pottery was consumed in situ, as was the case at Monte Grande. There is evidence of metalworking at Vivara but the site cannot be described as a production centre similar to Monte Grande, or as being a very large settlement. Instead Vivara was an entry point to the Apennine world. It is the most northerly site on the Tyrrhenian coast where a secure Aegean presence can be determined, and probably also the only one that had any organised and regular contacts with Aegean people on the Tyrrhenian coast of the Italian peninsula. The site was abandoned about LH III A 1, a process in which some volcanic activity probably played a part.

Vivara is located near the metal-rich hills of Tuscany and Latium and is not far from Sardinia, also rich in metals. The inhabitants of Vivara belonged to the people of the Apennine culture which stretched up to the Po Valley; trade routes were in operation with the Terremare and other northern cultures of Italy. Interestingly, whilst there is no evidence that after LH III A 1 Aegean ships returned to sites on the northern Tyrrhenian coast, LH III A 2 and later products are found on the Adriatic coast and also in the Po Valley. It is possible that the true reason for the Aegean traders sailing so far was the procurement of particular commodities, such as amber, that were imported through transalpine exchange networks from

50 Coastal areas are rich in natural foods because of the combined presence of land and sea.
51 Reaching the islands in the first place, moving from island to island (and fishing), meant that seafaring capabilities were essential to the very survival of the islanders.
52 The absence of clay on the islands has been mentioned above. It may also have been necessary to replenish the islands with livestock and agricultural products. Exchanges were therefore another activity essential for survival.
53 Bernabò Brea and Cavalier 1980.
54 Vianello 2005, 76-77. The tholos is better described as a spring chamber, but its architecture and possible connection with the underworld convincingly support the theory that it was built by (or with the participation of) Aegean people, probably during LH I - II. The poisonous hot spring is a by-product of volcanic activity, and its uniqueness in the region must have surprised ancient as much as modern people. The fact that the spring chamber was sacred is suggested by the restoration of the tholos undertaken by the Romans centuries later (Fig. 7), after an earthquake, when all the surrounding ground had been occupied by a sumptuous Roman thermal bath (thermae). The only reason for the Romans not to modify or rebuild such an old building must have been concerns for its sacredness. For an example of the Roman respect shown for pre-existing sacred places, Aquae Sulis (modern Bath; see Cunliffe 2000) is a good example. There, a Celtic shrine dedicated to Sulis was used by the local population to communicate with the underworld. The Romans respected the spring and the associated goddess, even after they identified Sulis with Minerva: it was then called Sulis Minerva.
55 Bernabò Brea, Cavalier and Belli 1990.
central and northern Europe. Also it should be noted that Vivara is one of the few sites where gold pendants have been found associated with Aegean products.

Another region with some early Mycenaean products is Apulia. Punta Tonno, on the Ionian coast, is unfortunately destroyed and there is no record of early contacts, but the evidence from later periods suggests this was a very important site which acted as a gateway between the Aegean exchange networks and theirItalic counterparts. In particular, there is evidence that metals (and probably amber) from central Europe were reaching Punta Tonno in significant quantities at least since LH III. It seems possible that Punta Tonno was already part of the Aegean exchange networks before LH III. There is also evidence of early Mycenaean products on the Adriatic coast of Apulia, especially at Roca Vecchia (Fig. 8, 9). The earliest products appear to be LM I Cretan pottery and LH II B Mycenaean wares. The settlement was destroyed after a siege at the end of the Italian Middle Bronze Age (ca. LH II B – III A 1). It seems that warfare in the region between the Middle and Recent Bronze Age disrupted Aegean attempts to sail further north on the Adriatic coast until LH III A 2 – B 1, and the unstable situation in the region may have channelled all Aegean ships to the then safer Tyrrhenian coast.

The West Mediterranean, LH III A 2 – C

The second phase in the exchanges is characterised by a substantial reorganisation of the exchange network, the introduction of Cypriot products, including pottery and oxhide ingots, and the start of local production on the Italian peninsula.

Two out of three important harbours in Sicily and the Tyrrhenian coast exit the exchange network by LH III A 1: Monte Grande and Vivara. The Aeolian Islands, which served as a hub, continued to be part of the exchange network, although four islands were used for the exchanges at different times: Ficulci (Montagnola di Capo Graziano) and Lipari in the first phase – Panarea (Capo Milazzese), Salina (two small settlements) and Lipari. There is no evidence of Aegean frequentation at Vulcano and Stromboli, which are active volcanoes and may have destroyed archaeological evidence or discouraged visitors, and on Alicudi, the smallest of the islands. It seems that the Aegean products, and possibly people reaching the Aeolian Islands, were not restricted to, nor did they prefer, a particular site or island. Lipari is also the only known site with stratified depositional contexts containing Aegean-type pottery from LH I to LH III C. The use of different islands at different times suggests that there was some reorganisation within the islands, and this may have been provoked, at least in part, by the evolving exchange network. However, the clear continuity of use of Lipari within the Aegean exchange networks demonstrates that the same people that had sailed to Monte Grande and Vivara until LH III A 1 decided instead to sail to Thapsos, Cannatello and Antigori; no hiatus in the exchanges can be detected at Lipari.

Thapsos is a small peninsula and consists of a harbour located between Sicily and the peninsula itself; a settlement close to the harbour and all the fields towards the sea were used as a cemetery and fortifications divided the harbour and settlement from the cemetery (Fig. 10). The site is surrounded by other smaller sites which have yielded Aegean-type pottery. Recent petrological and chemical analyses of some of these vessels suggest that they were all produced in the northern Peloponnese.

The area of the necropolis is very large compared to the possible extension of the settlement, which is tucked away in a corner and with rectangular monumental multi-chambered buildings that were not used as dwellings. It is clear that if all the people deposed in the tombs lived at Thapsos it would have been the largest known settlement in the area, covering 20 to 30 hectares. Sea erosion is destroying some tombs in the northern necropolis and the reuse of the area since Greek times probably destroyed many other tombs; more tombs are also present in the area but are unexcavated and unreported. As a result, the estimated population could have reached over one thousand people at one time, which appears unlikely even in such a large settlement because parts of the area were used for workshops. In addition, such a large population would require fresh water, absent on the peninsula, and in addition food would have been scarce as no agriculture was possible there; fishing alone would have been the viable source of food. It is my opinion that importing both water and food would have prevented the settlement of a large population on the peninsula, and the weak defences of what appears to have been the wealthiest of the sites in the area also require an explanation. Both settlement and harbour were exposed to the Sicilian mainland and people from nearby sites could have

56 Only one pendant has been found at Vivara. Marazzi and Tusa 2001 (Fig. 1a).
57 Guglielmamo 2002.
58 Corpses have been found buried in the débris along the wall. Whilst Aegean involvement in the destruction remains speculative, there is no doubt that Roca was besieged, provided that the reported depositional context is confirmed after the excavations have been completed (Pagliara 2002).
59 Voza 1999.
60 Jones and Levi 2004.
61 Voza estimates the settlement to be 1 km long and at most 300 m wide; Pelagatti and Voza 1973, 32.
literally swam from the Sicilian coast to Thapsos; this would leave the settlement strangely unprotected when most of the other contemporary sites were located on the top of hills, in positions more easily defensible. I have suggested the possibility that Thapsos was a ‘federal’ harbour, the centre of a community that included the nearby sites of Thapsos culture. This suggestion cannot be proven yet and therefore it should be considered as a hypothesis. There are several reasons for proposing it, and perhaps the most important is that Thapsos appears a unique site in terms of its characteristics and cannot be classified either comparing other Sicilian or Italic sites that were involved in exchanges of Aegean-type products. There are three recognisable phases at Thapsos: the second phase is the only one when Aegean products circulated. In the first phase, it appears that there was only a small settlement, probably exploiting the natural harbour – but it was not included in regional exchanges. Two other similar sites with natural harbours were also present along the same eastern-Sicilian coast, Syracuse (Ortygia) and Ognina, of which only Ognina, the southernmost site, was clearly involved in regional exchanges with Malta. By the second phase, Aegean-type products appear in the archaeological record and the monumental multi-chambered buildings that were used as workshops provided a significant contribution to the expansion of the settlement. Whilst it is certain that the site grew from its exposure to long-distance exchanges, the cemetery still appears exceptionally large for the settlement. Moreover, about one third of the settlement was used for workshops and the huts were inserted in a complex system of roads and sewage that spaced them; they were not crammed together as in the contemporary site of Punta Milazzese at Panarea (Aeolian Islands). Thus, the archaeological evidence suggests that people worked and were buried at Thapsos, but the permanent resident community may have been smaller than the workforce. With regard to the problems of the relatively poor defences and the operation of the harbour, since the harbour of Thapsos faces the Sicilian coast and the sea is out of sight from the settlement (because of the cemetery), there is no practical way to spot incoming ships from the peninsula unless people were stationed in the cemetery, which appears unlikely. Instead, the nearby hills would have been easy to spot from the open sea, the settlement and the harbour of Thapsos, and may have been used to watch the open sea. Perhaps a signalling system was in place to alert the people at Thapsos of incoming ships. The fortifications located in the middle of the peninsula were probably hidden by the vegetation and not immediately visible from the sea. The rocky cemetery could easily have passed for a deserted and uninteresting area along the coast, effectively masking both the harbour and settlement. Not only were the hills facing Thapsos probably directly involved in the activities of the harbour there, but also the entire region identified by the Thapsos culture seems to have utilized it. Sites such as Molinello to the south, as well as Syracuse, Milocca (Matrensa) and Plemmyrion appear to have acted as ‘exposed’ harbours, smaller and easy to see from the sea and connected to settlements in more defensible positions (the settlements were located at some distance from the harbours and have not yet been discovered; probably they were on the top of a nearby hill). Thapsos was at the heart of such a group of sites: easily accessible by sea, or, if necessary, by land, from any of the other sites, but also ‘hidden’ from the sea to those who did not know its exact location. In this way the exchange network benefited from multiple harbours, and, because of redundancy, any attacker targeting one of the minor sites would have caused relatively little damage. The few ships in danger may have tried to escape, while the people in the settlement would have been separated, or protected from the hostile activities, and ships could have moved to the next harbour for protection or harbouring.

Yet a series of small harbours would have been of little importance without a main centre where people could meet, exchange, and work some of the transiting products. This site was Thapsos, which probably acted as a main hub for the exchanges and must have been supported by all the people in the surrounding communities. In this case, the larger quantities of Aegean-type pottery in Thapsos would be explained by the location’s importance. The nearby sites would not need to be peaceful competitors but members of a same federal polity sharing the same culture and access to the same exchange network. The monumental multi-chambered buildings would be the workplaces of that community and traders and workers may have been able to return to their settlements on a daily or weekly basis. Supplies of staples to Thapsos would have been carried by commuters or easily transported from the federated sites, and the large cemetery at Thapsos may be explained by the willingness of many people to be buried together —

63 Vianello 2005, 76 for a preliminary version of the idea of Thapsos as a federal harbour; however suggestions of the sites involved should be discarded.

64 Alberti 2004. Alberti carried out a typological study of the archaeological evidence from sites of Thapsos culture, concluding that Thapsos, Cozzo del Pantano, Plemmyrion and Milocca were founded during phase I of the Thapsos culture. Thapsos and Plemmyrion were used mostly during phase II, along with the newly founded site of Molinello. Plemmyrion, Milocca and Molinello were abandoned by the end of the second phase. Phase III signalled the passage between Middle BA and Late BA in the area, and corresponded to the LH III B 1 period. Tombs 1, 48, A1 and D at Thapsos were used in all three Thapsos-culture phases. With the exception of Thapsos, only funerary contexts are known, but corresponding settlements probably with harbours must have existed in the area of each site.
they felt themselves members of one community and Thapsos was their focal point.

Thapsos is an extraordinary place from which to study the formation of Aegean trade routes in the western Mediterranean as it demonstrates that Aegean traders, by involving the indigenous Italic peoples, could build an extremely sophisticated and efficient exchange network even when the area had not been previously used for exchanges. The exchanges of Aegean pottery at Thapsos seem to have ended when LH III B 1 products were imported (Fig. 11). The subsequent third phase (equivalent to LH III B 2) is one of decadence for Thapsos, and was at least partially contemporary with the emergence of Pantalica. Pantalica is an odd site, founded inland and following the course of the River Anapo (Fig. 12). It is formed of several necropoleis (Fig. 13, 14) encircling a monumental multi-chambered building, analogous to those of the second phase at Thapsos and more clearly recalling Mycenaean architecture in spite of its Byzantine restoration. It seems possible that the associated settlements were located on the top of the surrounding hills, although erosion may have destroyed them. The particular organisation of the space at Pantalica, with a workshop at the centre, merging necropoleis suggesting a shared sacred space for the afterlife, and probable separated settlements recalls the organisation of the region of Thapsos in an earlier phase, albeit on a smaller scale, and has prompted the suggestion that Thapsos was a federal centre. The location of Pantalica suggests a period of increased instability, especially on the coast, which would confirm suggestions of the movement of Aeolian sites up into the hills since LH I, and the apparently hidden position of Thapsos. At Pantalica numerous Aegean-type and -derived products (probably produced locally or by other Italic) demonstrate that the exchange network of Aegean products survived into the Iron Age. However actual imports from the Aegean become rare, if not absent entirely, and direct contacts probably end.

No Aegean-type pottery has been found in the settlement of Thapsos and only a few vessels have been located inside the monumental multi-chambered buildings. Instead, plenty of Aegean-type products have been found inside the communal (probably family) tombs. The products were used in a strategy of wealth display that prized the rarest and finest vessels – Cypriot pottery. Karageorghis has recently determined that many ‘Cypriot’ Base-Ring II pots are imitations, and, in his opinion, produced locally, but they could have been produced in the Peloponnese or Crete. There is no evidence of an Italic production of Cypriot pottery, but if that can be confirmed from clays the production centres would probably be located on the southern Italian peninsula as there is no indication of Aegean-type pottery production in Sicily.

Cannatello is a settlement on the southern Sicilian coast where Cypriot and Mycenaean pottery has been found. Located not far from Monte Grande, the site entered the Aegean exchange network at the same time that Monte Grande exited it. However, the two sites are quite different: Monte Grande is an open mine and workshop for sulphur, whereas Cannatello was a standard, inhabited site where exchanges took place. There is no evidence that sulphur was exchanged at Cannatello. Several sites in central Sicily, both settlements and cemeteries, have yielded Aegean-type and -derived products (including golden objects). The so-called tholos tombs of Sicily are in reality rock-cut tombs apparently mimicking the internal space of a tholos, but they may represent also the inside of a dwelling. This may purposefully suggest that the tomb was the ‘house’ of the deceased. There is no clear association between these tombs and Aegean-type and - derived products: many tombs with Aegean-type products at Thapsos and Pantalica do not use this form.

Both Cannatello and Thapsos are notable for the many Cypriot products imported there. One oxhide ingot has been found at each site and among several Cypriot vessels there is one uncertain fragment of White Slip ware (reported from Cannatello) and two White Shaved jugs (found at Thapsos). Some Cypriot metal bowls have been found in both eastern and central Sicily (Caldaire, Milena and Sant’Angelo Muxaro). Only one Cypriot tripod has been found so far in Sicily, at Pantalica. Other Cypriot tripods have been found at Santadi on Sardinia, and Piediluco-Contigliano and Santa Domenica di Ricadi on the Italian peninsula. Petrographic and chemical analyses on transport jars from Cannatello suggest that they were manufactured on Crete. The Italic ware found at Kommos seems to have been manufactured on Sardinia, and therefore there is a strong possibility that many Cypriot products, including

65 Orsi 1899.
66 The building is known as the Anaktoron.
67 Tanasi 2004, 345-347. In particular, the possibility that the Anaktoron was a Byzantine castle is rejected after a re-examination of the archaeological evidence found at the site.
68 Tanasi 2004.
69 Karageorghis 1995, 94.
70 De Miro 1996; De Miro 1999.
72 Grazadio 1997, 697.
73 Vianello 2005, 163; tomb A1 and D. A later Sicilian imitation has been found at Realms (Vianello 2005, 180), near Thapsos, in a Pantalica III (Iron Age) tomb.
74 Vianello 2005, 91.
75 Ibid.
76 Vianello 2005, 112.
77 Watrous, Day and Jones 1998.
copper oxide ingots, transited via Komnos. This possibility would rule out a direct link between Cyprus and the western Mediterranean, and rather demonstrates that long-distance exchanges were the result of shorter, interregional exchanges from terminus to terminus. A higher frequency of Cretan products in the latest periods (LH III B 2 – C) has been noted also on the Ionian coast, particularly at Broglio di Trebiasacce, and may be due to the fall of Mycenaean palaces and a new reorganisation of the Aegean exchange networks.

Sardinia is a region involved in Aegean exchanges only during LH III. Aegean-type pottery on Sardinia is rare and mostly concentrated at Sarroch. However Sardinia has yielded most oxide ingots (Fig. 15), which appear to be of Cypriot origin according to lead isotope analyses, and Cypriot-style tripods. Oxide ingots have attracted particular attention as Sardinia is rich in metals, including copper, and the Nuragic artisans appear expert in mastering metalwork. As a result, Sardinia could have exported metals to the Aegean, but evidence seems to suggest that it was importing Cypriot copper oxide ingots. Most ingots are from hoards and fragmentary, except for those found at Nuragus (three) and Ozieri (two), which are integral. However copper oxide ingots have been found also on Sicily (poor in metals), at Thapsos, Cannatello and Lipari (all fragmentary). One integral example comes from Sant’Anastasia on Corsica. Another complete one comes from Sète in southern France, near the mouth of the Rhône, and four fragments have been found at Oberwilfingen in Germany. A shipwreck with oxide ingots has been reported off the coast of Formentera, Balearic Islands.

The location of copper oxide ingots suggests that the Po Valley was a terminus for a land route to central and northern Europe. The four fragments of ingots from Oberwilfingen probably arrived at Frattesina, or another nearby centre, by ship and then continued through the transalpine ‘amber route’. Discoveries of Aegean-type products in Germany include the two inscribed amber beads from Bernstorf found in a hoard with several golden objects. A dagger of Cycladic shape turned up with some amber beads in the Kyhna hoard (Saxony). The finds west of Sardinia suggest instead a route heading north to Corsica and then following the coastline of southern France and into Iberia, preferring small islands such as the Balearic Islands. In the Guadalquivir Valley of modern Spain a few potsherds of Mycenaean ware have been found: scientific analyses have confirmed that they are imports from the Peloponnesus. Of some interest seems to be the fact that the only oxide ingot from France so far was found near the mouth of the Rhône, while all Aegean-type pottery found in Iberia is located along the Guadalquivir, not far from its mouth. It seems that small islands and river mouths were conventional exchange places in the western Mediterranean and were actively looked for by traders.

Copper oxide ingots are normally interpreted as raw materials, and results from lead isotope and other scientific analyses are generally interpreted on this assumption. However Primas suggests that between Middle and Late Bronze Age (ca. MH III – LH II) daggers were probably exchanged according to gift exchange rules, i.e. each individual object had a value and was exchanged as a unit. In particular, she recalls the many representations of weapons in rock art, implying that weapons had a symbolic value for ancient people. From the mature Late Bronze Age (ca. LH III), she recognises that widespread interregional exchanges of metals, including gold, across Europe may signify that weighed metal was a means of payment, in effect the ‘currency’ of Bronze Age Europe. The detailed study of Bronze Age sickles from central Europe has revealed that they were deliberately broken into equal pieces or multiples of a basic weight, and studies of other types of metal objects may confirm that a standardised metrological system was in use in the western Mediterranean and central Europe. Primas also notes

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80 Lo Schiavo, Macnamara and Vagnetti 1985, 35-50. Often Sardinian Cypriot-style tripods are confused with imported Cypriot tripods (e.g. Matthias 2005, 350-351). There is only one Cypriot tripod reported on Sardinia, all the others are regional imitations.
82 Vianello 2005, 92-93.
84 Lo Schiavo 2005, 408. Sète is located near the Rhône, but also not far from the Garonne, which was used as a major axis for exchanges by Bronze Age people. The diffusion of Early Neolithic cardial ware suggests that from the fourth or third millennium BC the Garonne was a major axis of communication for European exchange networks between the Atlantic and the Mediterranean (Cunliffe 2001, 220-221). The exchange axis was also involved in the spread of the later Bell Beaker culture. This was also the easiest route for Wessex amber to reach the Mediterranean.
85 Primas 2005, 389; Primas 1997. The site is also known as Wilflingen.
86 Parker 1992, 181.
88 Gerloff 1993; Primas 1997, 121.
89 Mommesen, Diehl, Lambrecht Panteenburg and Weber 1990; De la Cruz 1990; Vianello 2005, 150.
90 Primas 1997, 123.
92 Primas 1997, 123.
93 Primas 1986.
94 The weight of the four fragments of oxide ingots found at Oberwilfingen is: 3254.2g, 1682.8g, 1411.8g, and 1346.4g. Primas recognises a regular system here,
regularities in weight among most standardised sets of objects, and the conventional notation on bronze items, using signs, may have reflected a system similar to that in use for transport vessels.\textsuperscript{96}

The case of the \textit{southern Italian peninsula} is quite different from any other discussed so far. The massive Italic production in the region almost hides the few imports. There were sites used as termini of exchange networks. Punta Tombo was the largest and most important of these and perhaps Broglio di Trebisacce also had some importance in this regard. However, the industrial production of Aegean-type pottery wiped out any possibility for the exchange of Aegean imported pottery. In spite of the obvious Aegean influence, the archaeological evidence for exchanges of any product imported from the Aegean is extremely scanty. The migration of a few artisans during LH III B\textsuperscript{97} may have been responsible for the formation of social identities.\textsuperscript{98} There has been an intense debate since Biancofiori's monograph\textsuperscript{99} on whether any site in the western Mediterranean was an Aegean colony, even if only a moderate ‘community colony’ with small groups of Aegean settlers within Italic communities supporting trade, as proposed by Vagnetti.\textsuperscript{100} It seems to me that formal colonies should be ruled out, as the archaeological evidence always includes a strong indigenous component. The evidence in Sicily supports a view of strict cooperation, where intermarriages may have occurred: there is no evidence of a separate community, as the ‘community colony’ model requires. This may also be the case on the southern Italian peninsula\textsuperscript{101} unless the potters manufacturing Aegean-type pottery were of Aegean origins and kept themselves apart from the Italic communities. It is possible that Aegean traders used the skills of any Aegean artisan or worker who may have moved there. In that case, the actual control of the territory was often less important than the relief of population pressure on the homeland and the provision of needed supplies at low cost. Such a situation could have found parallels during the colonisation of America. The discovery of significant amounts of Aegean-type pottery at Roca Vecchia dated to the LH III B – C should also be remembered. Roca Vecchia appears to have been an important ritual centre and a landing point for artisans and other people coming from the Aegean\textsuperscript{102}.

\section*{Discussion}

The study of Aegean-type products in the West Mediterranean is becoming increasingly complex as new archaeological evidence allows a more detailed view. The difference between the eastern and western Mediterranean is already evident in the volumes and forms of vessels found in the two regions and is now also becoming apparent in studies of contexts of usage.\textsuperscript{103} Our understanding of imports and imitations has changed since the introduction of petrographic and chemical analyses on pottery, which have demonstrated that sometimes the difference is invisible to the naked eye. The analyses have opened a new branch of research that has moved from short studies in support of traditional publications\textsuperscript{104} to the publication of independent monographs on the subject.\textsuperscript{105}

Researchers have become aware of regional patterns,\textsuperscript{106} and the systematic study of pottery has fragmented our view of the exchanges into a multitude of individual patterns that often vary by region, period by period.\textsuperscript{107} In 1958 Taylor,\textsuperscript{108} published a monograph examining all the Aegean-type pottery found up until then in Italy. This work was periodically updated,\textsuperscript{109} but it has now become impossible to publish all the evidence in one monograph because of the sheer volume of material and the distinctions that need to be made. All recent monographs have avoided generalisations, or interpretations, using all or significant parts of the available evidence, and concentrated rather on specific sites or regions.\textsuperscript{110} Of course ceramics do not represent all

\textsuperscript{95} Primas 1997, 123-124.
\textsuperscript{96} For example, signs on pottery in the Aeolian Islands have been present since the Early Bronze Age (Bernabò Brea and Cavalier 1968; Marazzi 2001). Signs have also been found on transport jars at Cannatello (Vianello 2005, 112; Åström 1998; Hirschfeld 2001).
\textsuperscript{97} Betelli 2002.
\textsuperscript{98} Vianello 2005.
\textsuperscript{99} Biancofiori 1967; Gorgoglione, pers. comm.
\textsuperscript{100} Betelli 2002 (for an updated position and history of the debate).
\textsuperscript{101} Vianello 2005, for a full discussion of the evidence.
\textsuperscript{102} Pagliara and Guglielmino 2005.
\textsuperscript{103} Steel 1998; Wijngaarden 2002.
\textsuperscript{104} Biancofiori 1967.
\textsuperscript{105} Levi 1999.
\textsuperscript{106} Bettelli 2002.
\textsuperscript{107} Vianello 2005.
\textsuperscript{108} Taylor 1958.
\textsuperscript{109} Taylor 1980; Vagnetti 1982; Marazzi, Tusa and Vagnetti 1986.
\textsuperscript{110} Wijngaarden (2002) only focuses on three sites for each of three macro-regions identified by the author; Marazzi and Tusa (2001) concentrate on Sicily and Vivara while Betelli (2002) concentrates on the Italian peninsula; Vianello (2005) presents regional patterns and
the available archaeological evidence, but they form the largest element and separate studies have generally been used in support of the interpretations based on pottery, or have only produced new controversies and problems. Comprehensive publications of specific categories of products have been attempted, especially for Cypriot products, but they overemphasise the importance of the products they focus on.

The only general scheme that can be recognised is the predominance of pattern-decorated Mycenaean pottery. However other considerations are possible. Although Cyprus (oxhide ingots) and Crete (Kommos harbour) were involved in the exchange network, it seems that such involvement in western routes was late (LH III) and that the Mycenaeces maintained overall control. The dynamics of trade for Aegean ceramics are different, from a chronological point of view, between the eastern and western Mediterranean. For instance, while LH I - II pottery is present in significant quantities at a few western sites, 'only small quantities of LM I and LH II/II are found on the island' of Cyprus. Most imports among Aegean-type vessels in the West Mediterranean date to the LH I - III A 1. The preliminary reports of petrographic analyses (and optical examinations) of the later vessels suggest that only a very small minority of such vessels are imported, and almost none are LH III C. Regional production of vessels is well known to have occurred also in Cyprus and the eastern Mediterranean on a massive scale, but in the western Mediterranean it remained localised (mostly on the southern Italian peninsula) and accounts for the many vessels that are Aegean derived (influenced), rather than of Aegean type (imitative).

The prevalence of Mycenaean artefacts suggests a need to keep the research focussed on mainland Greece in the quest to understand the earliest exchanges. It seems that the wealth apparent since MH III on mainland Greece had its origins to the north, however the exchange network constructed by the Mycenaeans had collapsed by LH II. Contacts with the coastal sites of the northern Balkans probably continued (one of the crew members of the Uluburun ship may have come from the area of modern Romania), but the supply of some products and materials, possibly gold and other metals, may have been disrupted. It seems unlikely that the Minoans were involved in this early exchange network because it would have made no sense for them to sell their jewellery (literally, as they would probably have had to pay in gold!) to acquire the northern products of interest to them (possibly almost exclusively luxury items, such as amber beads), while they - and the palatial elites in particular - were experiencing a period of crisis around the same time. The possibility that Aegean merchants were looking for gold in the western Mediterranean is strengthened by finds of gold objects. One gold pendant has been found at Vavara (Fig. 1a). The necropoleis of Thapsos have yielded perhaps the earliest Bronze Age gold pendants in Sicily and many other Late Bronze Age Sicilian sites have yielded golden objects. Gold is not found in Sicily and therefore must have been imported: gold (and amber) have also been found in the German hoards.

The eruption of Thera certainly disrupted maritime traffic near northern Crete and probably destroyed ships and harbours in the area, even if signatures cannot be recognised in the ice cores. That destruction would have afforded the Mycenaenae the opportunity to sail unconstrained in the northern Aegean, and possibly gain control of many islands - as suggested by Homer. They do not seem to have launched their initial contacts with the western Mediterranean from Crete, but this does not exclude the possibility of the early Mycenaean control of Crete.

The early (LH I - III A 1) Aegean traders seem to have been motivated by the desire to acquire supplies of certain products and probably to find markets for some of their own outputs. The Near East was an obvious market, but it was hardly an open one. Mycenaean ceramics (and probably other products) finally entered the Levant after some partnership (or conquest) involving Cyprus, where local rulers had long participated in the practice of gift-exchanges with their eastern counterparts. The western Mediterranean posed other challenges, but obviously Aegean merchants did not need to be accredited, as there was no pre-existing long-distance exchange network in place. They directly accessed Monte Grande for sulphur for a relatively short period, probably until volcanic activity settled down in the Cyclades and access to sources there could be re-established. They did not access

108 Pulak 2005, 93.
109 Marazzi and Tusa 2001, 301.
110 Nicoletti 2001. All gold objects found at Thapsos come from tomb D.
111 Iliad, II, 108.
the traditional locations of the existing Sicilian exchange networks, but there is no evidence of resistance from the indigenous population. Exchanges remained stable on the Aeolian Islands for a long time, and eventually increased in Sicily with the establishment of Thapsos and Cannatello as preferred ports-of-call. It seems clear enough that the Aegean merchants wanted to connect directly with the exchange network that brought amber and other products into the Balkans, but experienced political turbulence, if not open warfare, on the Adriatic coast – the only site providing evidence of hostile behaviour directly connected to the Aegean exchange network is at Roca Vecchia. On the Tyrrhenian coast Vivara acted as a trade intermediary with the northern Italian peninsula (and perhaps Sardinia). This probably frustrated the Aegean traders who had travelled long distances only to find an intermediary in place. Eventually, people of the same Apennine culture (Vivara) took control of the Aeolian Islands, probably by violent conquest, and further social complications may have arisen on the southern Italian peninsula, where issues of emerging social identities diverging from the mainstream Apennine culture can be detected in coastal settlements. Any social process of identity formation would have been boosted by the arrival of a few Aegean artisans willing to share their culture and integrate with the Italic communities.

The LH III A was a period of change for the Aegean exchange network in general, not just for the western Mediterranean: at Kommos, a change in foreign imports has been detected between LH III A 1 and 2. At the end of LH III A 1, Aegean sailors abandoned the routes to Vivara and Monte Grande. However, the Aeolian Islands remained a hub for Aegean operations in the western Mediterranean and new destinations receive Aegean products: Thapsos and Cannatello were the most important destinations in Sicily. Thapsos is a peninsula located near a short crossing from the tip of the Italian peninsula and was therefore the first Sicilian site Aegean ships would have reached by following the Ionian coast. Cannatello is not far from Monte Grande, but it is a settlement. Its location by the mouth of a river was ideal for reaching the northern coast of Sicily without circumnavigating it, and from there it would have been possible to reach Sardinia via Ustica without transiting the Aeolian Islands. However previous contacts with the local population at Monte Grande may have persuaded Aegean traders that Sicily itself was a valuable market. Antigori, on southern Sardinia, received a few Aegean products about this time, but it is unclear which routes were used to bring Aegean ceramics there. Oxhide ingots were probably carried exclusively by ship, and therefore via the Aeolian Islands, but a few fragments of these ingots have been found at Thapsos, Cannatello and Lipari. The situation changes dramatically also on the southern Italian peninsula, where small amounts of imported Aegean pottery stimulate an impressive production of both Aegean-type and -derived pottery. The settlement of Punta Tonnos stands out as a terminus for exchanges from central Europe, via the Apennine culture, and from the Aegean. On the Adriatic coast there are only a few finds of pots, but some concentrations on the northern coast, and particularly the Po Valley, suggest that Aegean merchants succeeded in connecting with the transalpine 'amber route'. An oxhide ingot in pure copper has been found as far north as Willingen in modern Germany. At Bernstorf, again in modern Germany, two amber pieces inscribed with Linear B letters have been found. It seems to me that the amber pieces may have been samples sent through the network to request 'more of the same' – amber – and the marks (or letters) were perhaps a signature to certify some commercial agreement.

It is unclear how long the trade lasted, but it was probably quite a short time considering that these long-distance exchanges with central Europe via the Adriatic started not earlier than LH III A 2, and from LH III B 1 the Mycenaean palaces were being destroyed or abandoned. However, after such a long journey, both in chronological and geographical terms, the Mycenaeans would certainly have gained precious knowledge about the Italic peoples, the trading opportunities in the western Mediterranean and the transalpine routes, which were remembered by Aegean and Phoenician merchants during the Iron Age. There is little doubt that the earliest Aegean merchants were also explorers and that the modifications in the western sea routes from LH III A 2 were based on information gathered during previous enterprises. There is never the impression of opportunistic behaviour on the evidence that Aegean ships transited via Cannatello and Ustica to reach Sardinia, but a route excluding the Aeolian Islands may have been sought after the Ausonian conquest of the islands. Eventually it appears that contacts between Aegean and Italic traders continued, albeit reduced, in Lipari until LH III C. Although the LH III B 2 - C pottery found in Lipari may have been imported from the southern Italian peninsula rather than the Aegean, the copper oxhide ingots suggest that ships from there continued to embark for the Aeolian Islands.

The settlement was besieged by people of probable Apennine culture. Tokens found at Vivara strongly suggest that organized exchanges (trade) were the main reasons for the Aegean presence. Mammina, Marazzi and Tusa 1990; Mannina 2001.

Bernabò Brea and Cavalier 1980.


For Ustica: Mannino 1982. There is no archaeological
Aegean side: they always knew what they wanted and where to go to source it.

It seems probable that the LH III A exchanges were, at least in part, the result of the partnership with Cypriot and possibly other Levantine merchants: Cypriot pottery appears from the earliest period of contact at Thapsos (fine pottery), Cannatello (transport jars), and Antigori (both). Oxhide ingots were probably also introduced into the exchanges at this time, but most of them have been found fragmented in hoards of later periods. Kommos was clearly connected with exchanges in the western Mediterranean, but it is improbable that it became the primary terminus in the Aegean for that particular exchange network. There is no evidence of a fixed ‘terminus to terminus’ route at any time in the western Mediterranean, and it would be speculative to suggest one for the Aegean. Kommos was obviously a terminus, and as such products were circulating in (and from) all directions: Italic pottery (particularly Sardinian) arrived there, as well as Mycenaean and Cypriot ceramic wares and other products. However proof of circulation of Italic products in the Aegean is still missing: a few swords similar to the Italic Pertosa-type have been found in the Uluburun shipwreck and on Crete.

The similarity between Aegean Barbarian ware and Italic impasto ware has also been noted. However, except for Kommos, a secure Italic provenance has not been confirmed for most of the similar metal objects, and the origins of Barbarian ware remain doubtful.

To conclude, the Aegean exchange networks of the Late Bronze Age appear to have introduced the West Mediterranean to the Aegean and Near East, and vice versa. The exchanges were probably important for all these regions in economic terms, but they were also capable of greatly influencing the peoples living in the coastal settlements of the respective regions. In Sicily there is evidence of wealth-display strategies and therefore the formation of hierarchical societies, which are clearly associated with gold, amber, Cypriot pottery, and other imported exotics. In the southern Italian peninsula new political identitites seem to have adopted the Aegean culture to differentiate themselves from the surrounding peoples. In the Aegean too, however, the exchange network had profound effects. Such a complex network would not have been possible without producing wealth by sourcing and exchanging common products from one part of the Mediterranean for rare products elsewhere. As the exchange network enlarged to encompass all the Mediterranean, from Iberia to Egypt, the Mycenaean products suggest that mainland Greece retained some control of this network until the end. Aegean merchants influenced many cultures with their wealth, culture and trades more than any army could have done. They acted as cultural pollinators for all those Bronze-Age societies that faced the Mediterranean, and this is why we find their traces all over such a vast region.

Acknowledgements: I wish to thank Prof. Hélène Whittaker von Hofsten for inviting me to her session at the EAA annual meeting in 2005; Prof. Keith Branigan for reading an earlier version of this paper and his invaluable comments and support; Mr. Gerald Brisch for his comments on the English language of an earlier version of this paper. This paper was written while working with Dr. Ylva Berglund, Mr. Alun Edwards, Dr. Michael Fraser, Dr. Shoshannah Holdom and Dr. James Wilson for the Humbul Humanities Hub project at the University of Oxford.

132 Apart from possible Sardinian pottery at Kommos, an askos has been found there, Khaniale Tekke tholos tomb 2 (Vagnetti 1989; Ferrarese Cerutti 1991).
133 Pulak 2005.
135 Bettelli 2002, 117-137
136 ‘Barbarian’ is a simple ware which may imitate pottery from the western Mediterranean, or pottery from other places, or be indigenous.
References


Bettelli, Marco 2002, Italia meridionale e mondo miceneo: ricerche su dinamiche di acculturazione e aspetti archeologici, con particolare riferimento ai versanti Adriatico e ionico della penisola italiana, with a summary in English, Firenze.


De la Cruz, Jose Clemente Martin 1990, "Die erste mykenische Keramik von der Iberischen Halbinsel", *Prähistorische Zeitschrift* 65, 49-52.


Hirschfeld, Nicolle 2001, "Cypriots to the West? The Evidence of their Potmarks", in L. Bonfante and V. Karageorghis (eds.) *Italy and Cyprus in Antiquity: 1500-450 BC*, Nicosia, 121-129.


Orsi, Paolo 1895, "Thapsos: necropoli sicula con vasi e bronzì Micenei", *Monumenti antichi dei Lincei* 6, 89-150.

Orsi, Paolo 1899, "Pantalica e Cassibile", *Monumenti antichi dei Lincei* 9, 33-146.


Pare, Christopher Frank Edward 1999, "Weights and Weighing in Bronze Age Central Europe", in I. Kilian-Dirlmeier and M. Egg (eds.) *Eliten in der Bronzezeit*, Mainz, 421-514.


Primas, Margarita 1997, "Bronze Age Economy and Ideology: Central Europe in Focus", *Journal of European Archaeology* 5, (1), 115-130.


Wijngaarden, G. J. van 2002, *Use and appreciation of Mycenaean pottery in the Levant, Cyprus and Italy (ca. 1600-1200 BC)*, Amsterdam.
Figure 1: Aegean-type and associated products found at Vivara. Golden pendant (a), potsherd decorated in pattern-painted Mycenaean style (b); Canaanite jar (c). Adapted from Marazzi and Tusa 2001.

Figure 2: Lipari, the Bronze Age settlement (picture by the author).
Figure 3: Filicudi, settlement of Montagnola di Capo Graziano (picture by the author).

Figure 4: Filicudi, Aegean-type pottery from the settlement of Montagnola di Capo Graziano. Adapted from Bernabò Brea 1991.
Figure 5: Vivara, plan of the island. Adapted from Marazzi and Tusa 2001.

Figure 6: Inside the "tholos" of San Calogero, island of Lipari. The spring and the white calcareous concretions are clearly visible (picture by the author).
Figure 7: Inside the "tholos" of San Calogero, island of Lipari. The visible brickwork is part of the restoration by the Romans (picture by the author).

Figure 8: Aegean-type pottery from Roca Vecchia. Adapted from Guglielmino 2002
Figure 9: Aegean-type pottery from Roca Vecchia. Adapted from Guglielmino 2002.

Figure 10: Plan of Thaspos: Adapted from Voza 1999.
Figure 11: Aegean-type pottery from the necropoleis of Thapsos. Adapted from Orsi 1895.

Figure 12: Plan of Pantalica. Adapted from Orsi 1899.
Figure 13: Pantalica, necropolis North (picture by the author).

Figure 14: Pantalica, necropolis North, detail of tomb; bench is indicated (picture by the author).
Figure 15: Map of Sardinia showing the sites where copper oxhide ingots have been found. The only five integral ingots are also shown. Adapted from Lo Schiavo 2005.