

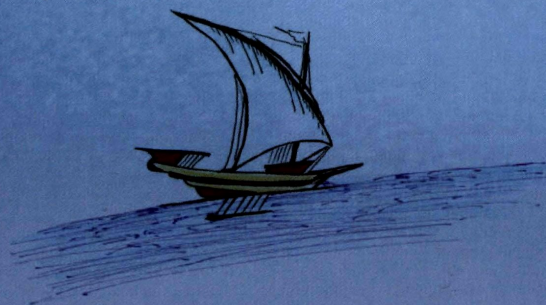
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SAILING IN THE AEGEAN *Readings on the economy and trade routes*



Charikleia Papageorgiadou-Banis
& Angeliki Giannikouri (eds)



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Ἡ ἔκδοσι αὐτὴ χρηματοδοτήθηκε ἀπὸ τὸ ἔργο μὲ τίτλο «Μελέτη καὶ διάχυσι τεκμηριωτικῶν δεδομένων τῆς ἱστορίας τοῦ Ἑλληνισμοῦ κατὰ τὴν Ἀρχαιότητα» τοῦ μέτρου 3.3 τοῦ Ἐπιχειρησιακοῦ Προγράμματος «Ἀνταγωνιστικότητα» – ΕΠΑΝ, πράξι «Ἀριστεία σὲ Ἐρευνητικὰ Ἰνστιτοῦτα» Γ.Γ.Ε.Τ. (2ος Κύκλος).

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Preface

The Aegean is a unique region, in which several ancient civilizations developed. Despite the problems the sea posed for communications and everyday life, human settlement and organization are well attested from earliest times. Moreover, some extremely important cultures took shape in the Neolithic and the Bronze Age. The cultures of the Cycladic islanders, the Minoans and the Therans, were followed by the Egyptians and the Phoenicians. Strong cities and mighty hegemonies arose, such as Euboea, Athens, Macedonia, Thasos and Rhodes, while the Romans had to conquer the whole region in order to cross the sea securely and extend their power further east.

All these civilizations, with their close inter-connections and reciprocal influences, as well as their contacts with the world beyond, constituted a strong chain of culture that endured for many centuries. Difficulties created by the sea and the scatteredness of the islands, as well as by hostile incursions from the mainland, had little serious effect on the continuity of life and communication in the Aegean. The Romans, and later the Byzantines, having created an enormous *imperium*, dealt with the region as a whole. The idea of *mare nostrum* was eminently appropriate to the Aegean, before it spread to the entire Mediterranean. These waters were always regarded as a factor of unification rather than of separation by the people living on the islands or the shores, as borne out by their rich variety of relations, common reactions and policies.

In the restricted space of a volume we can only give some hints or glimpses at the immense circulation of ideas, people, goods, artefacts and coins that took place across Aegean waters in ancient times. That is why we chose not to concentrate on one subject or one chronological period, but to ask for contributions on a variety of subjects and from different periods, each shedding some light on the diverse aspects of life in the Archipelago.

It is our hope that "Sailing in the Aegean" will stimulate more intensive and specific studies, and that we shall have the opportunity to return to this subject in the future.

We take this opportunity to express our sincere gratitude to all who helped in preparing and printing this volume, as well as to those who have supported this publication in many ways.

Our special thanks are due to Alexandra Doumas for her punctual translation and editing of the texts, and to Dimitris Dialismas for his patience in designing the layout of the book.

We sincerely hope that we shall have the opportunity to collaborate with all these colleagues in the future.

Lastly, we should like to thank the Director of the Centre for Greek and Roman Antiquities of the National Research Foundation, Dr Miltiadis Hatzopoulos, for financing the publication of this volume from the Aristeia project funds.

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*Introduction:
Diversity, complementarity
and connectivity in the Aegean
and in Crete*

Angelos Chaniotis

1. Boundaries and challenges in the Aegean

THE CYCLADES, the Sporades, the Dodecanese: "the islands that form a circle (around Delos)"; "the scattered islands"; "the group of the twelve islands", respectively. The names of Greek archipelagos reveal an elementary geographical fact: most Greek islands can somehow be grouped together and were perceived by the Greeks as groups. Even when they were "scattered in the sea as the seed falls on the earth" (σποράδες), they were still regarded as a group. Already this geographical perception of the Aegean implies the existence of local networks: geographical, but also political, cultural, and economic¹.

Not all Greek islands, however, correspond to such a pattern. There are also the great islands: Euboea stretching from the coast of Attica to that of Thessaly; Thasos, Samothrace and Lemnos in the north; Lesbos, Samos and Chios in the east; Crete in the south. But with the exception of Crete, on which I shall focus in this introduction, even the great islands that do not constitute a "micro-insular" system were anything but insular and isolated. They were oriented towards the nearest "continental" area. Euboea was at various times under the control of Boeotia (during the period of the Linear-B tablets), Athens (during the Athenian Empire) and Macedonia (under the Antigonids). The big islands of the northern and eastern Aegean were always oriented towards "the land beyond the sea" (*peraia*). For long periods, the territory (*chora*) of most of these islands included a *peraia* in Thrace and Asia Minor, occupied, exploited and contested against the population (*poleis* and barbarian tribes) of the mainland². Many inscriptions record the never-ending

¹ On connectivity in the world of the Greek islands, see Brun 1996, 163–182; Giannakopoulou 2007, 1–28, 222–227 and *passim* (cf. 214–222, on clusters of islands). For the particular situation under the conditions of the Byzantine Empire, see Malamut 1988.

² The *peraia* of Lesbos, Chios, Samos, Samothrace, and Tenedos: Funke 1999; Debord 2001; Carusi 2003; Giannakopoulou 2007, 231–249. The particular cases of the Rhodian *Peraia* and the Rhodian occupation of Karia and Lykia: Bresson 1991; Reger 1999; Rice 1999; Wiemer 2002, 252–260.

conflicts between island communities and *poleis* in Asia Minor over the *peraia*³. Samothrace faced a crisis in the late third century BC, when part of its territory on the Thracian coast remained uncultivated, obviously because of attacks by Thracian tribes; the Samothracians asked a Ptolemaic commander to assist them in the construction of a fort (*ochyroma*), so that the citizens would be able to receive land-lots there and cultivate them⁴.

From the Early Bronze Age onwards, the economic history of the Aegean is connected with the existence and development of regional and trans-regional networks⁵. Sometimes these networks were very small-scale. Hellenistic Delos is a case in point; its supplies came mainly from its Cycladic neighbours⁶, but for its building projects it recruited workmen, deliverers and entrepreneurs from most of the Greek world, from the Black Sea (Sinope) to Crete and from the mainland (Corinth, Thebes) to Asia Minor (Knidos, Klazomenai)⁷. In other cases –and depending very much on the general historical context and on a variety of factors (see below)– networks extended over large geographical areas, reaching out to South Italy and Sicily, the Black Sea, Egypt, and the Near East. Rhodes, with its Peraia in Asia Minor, its close political contact with other islands of the Dodecanese but also with Crete and its international trade, is an example of a multi-faceted and extended network in the "globalized" world of the Hellenistic period⁸.

Resources are always limited; the history of mankind would have been different if they were not. Limited resources, shortages in specialized manpower and landscapes suitable only for particular types of cultivation create the need to exchange goods and to co-operate. The Greek landscape is very diverse and the diversity of small environments (plains, coastal plains, harbours, mountains, islets, plateaux, defensible peaks, hill slopes, continental *peraia*) makes them complementary to one another⁹. The limitation of resources is particularly evident in the Greek islands, since the territory of most is relatively small and quite often cultivable only as a result of considerable effort (water management, terrace construction)¹⁰. However, in

³ Collected by Ager 1996 and Magnetto 1997.

⁴ *IG* XII.8.156 B 17–23.

⁵ See the article by Michailidou – Dogan (in this volume).

⁶ Reger 1993 (grain trade); cf. Brunet 1999.

⁷ Feyel 2006, 348–357 with fig. 10a.

⁸ See the studies in Gabrielsen et al. 1999 and the articles by Triantafyllidis, Deligiannakis, Kasdagli, and Katsioti in this volume.

⁹ E.g. Melos: Wagstaff – Gamble 1982. Argolis: Jameson et al. 1994. For Crete see below.

¹⁰ Geographical conditions and resources: Brun 1996, 26–61; 121–136. Water management: see note 24. Terraces: Brun 1996, 64–71; Brunet 1999, 12–27; Chaniotis 1999, 186–188; Price – Nixon 2005. On the "topos" of the poverty of the islands, see Brun 1993 and 1996, 196–209.

most periods of Greek history, until the integration of Greece into the Roman Empire, this tendency towards connectivity was countered by the artificial division of the insular world of the Aegean into small independent communities. As any island has unequivocal geographical boundaries, the tendency towards separation and local identity is to some extent geographically determined¹¹, but it can be reinforced through social and political institutions, such as citizen training. Often the boundaries imposed by the sea were more easily overcome than the boundaries imposed by political division. Political boundaries existed also within the islands, even the smallest ones. For long periods of their history islands such as Keos and Mykonos had more than one independent *polis*¹².

The political fragmentation potentially presented serious obstacles to economic activities: the ownership and leasing of land was usually a privilege of the citizens; the crossing of innumerable borders was subject to the payment of customs¹³; the different poleis used different coins, sometimes struck on different standards¹⁴. Further difficulties arose from war, especially the endemic wars of the Hellenistic period and the raids of pirates¹⁵, from the "ethnic" division of islands ("Ionian", "Doric"), and from the influence or control of opposing political powers (e.g. Athens, Sparta and Achaemenid Persia in the Classical period, the Antigonids and the Ptolemies in the Hellenistic period)¹⁶. Under conditions of division, insecurity and instability, autarky, which does not exclude small-scale trade, could become a primary consideration and the preferred economic model in many an island¹⁷.

Despite these difficulties, the social and economic history of the Aegean is dominated by connectivity rather than fragmentation: the movement of people (artists, entertainers, pilgrims, workmen, slaves), the movement of goods, the movement of livestock¹⁸, the movement of cultural and ideological

¹¹ Latsch 2005. Constructions and realities of "insularity": Giannakopoulou 2007, 99–125.

¹² Keos (*tetrapolis*): Reger 2004b, 747–748. Mykonos (*dipolis*): Reger 2004b, 760. Differences between islands with one polis versus islands with several poleis: Reger 1997.

¹³ The fiscal aspects of the economy of the Greek poleis: Migeotte 1996. Athenian grain-tax: Stroud 1998.

¹⁴ Standards in pre-coinage Aegean: Michailidou 1999 and 2005. Different coinage and standards in the Hellenistic period: E.g. Grandjean 1995; Marcellesi 2000.

¹⁵ War: Chaniotis 2005a. Piracy: Brulé 1978; Bielman 1994; de Souza 1999; Gabrielsen 2001 (connection with trade); Wiemer 2002.

¹⁶ Athenian Empire: Giannakopoulou 2007, 61–89. Sparta: Prost 2001. Antigonids: Buraselis 1982. Ptolemies: Bagnall 1976.

¹⁷ Cf. Renfrew 1982, Brun 1996, 159–162, and Brunet 1999, esp. 4. On Greek attitudes to export trade: Bresson 1987 = Bresson 2000, 109–130.

¹⁸ Seasonal movement of livestock: see note 38. The phenomenon of the "goat islands" used as pasture for goats: Robert 1949; Brun 1996, 94–104; Giannakopoulou 2007, 200–214.

products (scripts, political and social ideas, legal institutions, cults, literary genres). The function of networks –of economic networks, in particular– depended on a variety of factors. They include inter alia the establishment of larger political units through synoikismos and sympoliteia¹⁹; the founding of confederations (koina)²⁰; the existence of a supra-local administrative authority (e.g., the Athenian Empire); the creation of mini island networks and clusters²¹; the introduction of measures for the use of the same standards and coins²²; interstate agreements (isopoliteia), individual grants of privileges (ἔγκτησις, ἀσυλία, εἰσπλους, ἔκπλους, ἀτέλεια, ἀσφάλεια, προξενία, etc.), and other measures facilitating the crossing of boundaries and economic activities²³; technical innovation (e.g. in ship-building, water management, terrace construction, wine- and oil-presses)²⁴; piracy and war; the migration of foreign groups (Athenian cleruchs, Italian negotiatores)²⁵; social structure and political institutions (e.g. in Hellenistic Rhodes)²⁶; the degree of specialization in production, technology, trade and art²⁷; the development of prices and wages²⁸; economic planning and interventions²⁹; demographic and climatic developments.

The fundamental opposition between networking and fragmentation can be studied best in the case of Crete, an island absent from the

¹⁹ *Synoikismos* and *sympoliteia*, in general: Giovannini 1971; Moggi 1976; Chaniotis 1996, 105 with note 630; Buraselis 2003; Reger 2004a. E.g. Crete: Chaniotis 1996, 104–108. Mykonos: Reger 2001; Rhodes: Giannakopoulou 2007, 244–245; Kos and Kalymnos: Giannakopoulou 2007, 186–187; Keos: see note 20.

²⁰ E.g. the *Koinon Lesbion*: Labarre 1994; the federation (or *sympoliteia*) of Keos: Reger – Risser 1991; Reger 1998. For the particular phenomenon of religious networks, see Giannakopoulou 2007, 29–60.

²¹ Giannakopoulou 2007, 176–195 (Chios, Samos, Kos, and Rhodes).

²² Athenian Empire (decree concerning the use of Athenian standards): Meiggs – Lewis 1988: no. 45. Rhodes: Bresson 1993, 119–139 and 2001.

²³ E.g. Gauthier 1972; Marek 1984; see also note 40 (Crete).

²⁴ Impact of ancient technology on economy: E.g. Renfrew 1982, 272–275; Brun – Jockey (eds) 2001; Lo Cascio 2006 (with further bibliography). Water management: Krasilnikoff 2002, 47–62. Transportation: E.g. Meijer 1986; Casson 1995; Meijer – van Nijf 1992; cf. Brun 1996, 136–144. Terraces: see note 10. Wine and oil-presses: Amouretti – Brun (eds) 1993.

²⁵ Cleruchs: Salomon 1997. Italian traders: Müller – Hasenohr (eds) 2002. Cf. Brun 1996, 163–182.

²⁶ Gabrielsen 1997.

²⁷ Harris 2001 (Athens); Brun 1997 (specialization in production); Feyel 2006 (specialization in building activities).

²⁸ Andreau et al. (eds) 1997; Loomis 1998 (only in Athens); Bresson 2000, 151–210, 263–307; Descat 2001.

²⁹ Foraboschi 2000.

contributions to this volume but also an island with a very well-documented history from the early second millennium BC onwards.

2. Connectivity and fragmentation: the paradigm of Crete

Crete differs in many ways from the other Greek islands: it is not part of a group of islands and it lacks a *peraia*. Yet, in many ways its economic history exemplifies the aforementioned continuous struggle between two opposing forces: fragmentation and unity, autarky and integration into larger economic networks.

Oliver Rackham and Jennifer Moody very aptly describe Crete not as an island but as a miniature continent with huge variations from place to place in climate, rainfall and vegetation³⁰. High mountains, where the snow never melts, co-exist with locations such as Hierapetra (Hierapytna), where the relative humidity can go as low as 20 per cent; the small fertile coastal plains co-exist with the utterly barren High Desert in the southern half of the White Mountains; the sequence of mountain slopes, hills, and gorges is interrupted by several plateaux, such as those of Lasithi and Omalos.

Crete is an island, but an atypical one. It is bigger and more isolated than the other islands of the Aegean. This relative isolation was exacerbated in some historical periods by the lack of good harbours, especially on the south coast. In most of the Aegean, it is possible to sail always in visual contact with the next island or coast. In the case of Crete this is not possible, not even when sailing from west Crete to Kythera or from east Crete to Kasos. Unlike most big Greek islands, Crete did not have a *peraia*, a continental territory that could be exploited whenever demographic, social, or economic changes necessitated this. Crete is geographically more confined to itself, unlike most Greek islands that were connected with a continental area, formed a regional economic network or established a political unit with other islands (e.g. Kos and Kalymnos). Connections with other areas have to overcome the natural border of the sea.

The most important and visible feature of the Cretan landscape is its mountainous character³¹. An almost continuous chain of mountains divides Crete into two parts from west to east. Communication between the few larger plains (e.g. Mesara), the small coastal plains and the high plateaux was always possible, but difficult. The few but fertile plains cover less than 5% of

³⁰ Rackham – Moody 1996 (with the corrections, additions, and bibliographical supplement of the Greek edition: Rackham – Moody 2004); cf. Chaniotis 1996, 11–13.

³¹ Chaniotis 1999.

the island. In the words of a modern geographer, Crete is a mountain in the sea, the continuation of a mountain range that passes through the Balkan Peninsula. Because of Crete's mountainous character, the existence of large urban centres surrounded by a territory suitable for farming is hardly possible. In most parts of Crete the landscape is naturally divided into small areas of settlement, which may be but need not be autonomous and self-contained. The ancient proverb *ho Kres agnoei ten thalassa* ("the Cretan knows nothing about the sea") is usually interpreted as an ironical comment on the fact that the Cretans were notorious pirates in the Hellenistic period and that Minoan Crete is believed to have exercised a thalassocracy; but at least in some periods of Cretan history this proverb can be taken quite literally, reflecting an inward orientation of the Cretans.

Besides the mountains, the second important geographical component of Crete's economic life was the sea. It provided a definite geographical boundary and thus promoted the unity of the island and the development of a distinct culture, though without ever impeding Crete's communication and close interaction with other regions. However, the Aegean was not always a path of communication between cultures, the realm of the friendly dolphins we admire in Minoan iconography. In certain historical periods the sea was the dangerous space where pirates and enemy fleets were lurking. Whether the sea isolated, threatened or connected the Cretans with other areas, depended on the general political situation in the eastern Mediterranean.

Crete is a mountain in the sea, and this duality determined the image of the Cretans as sailors and highlanders, their specific way of fighting (piracy at sea, ambush on land), but also their economic activities.

Because of these characteristics –the geographical boundary of the sea, the enormous diversity and fragmentation of the landscape, the complementary character of individual and diverse environments, and the very peculiar insularity that makes the Cretans more highlanders than islanders– the Cretan landscape was more than just a stage chosen by history to perform its dramas. In its long and well-documented history, the Cretan economy is determined by two patterns: a pattern of unity and a pattern of fragmentation³².

The pattern of unity and co-operation is characterized by the creation of administrative and economic networks that encompassed the entire island or large parts of it; often, this pattern was either promoted by or led to the integration of Crete into larger economic networks in the eastern Mediterranean and beyond –in particular during the Mycenaean, Roman and Venetian peri-

³² Cf. Bennet 1990.

ods. The genesis of this pattern can be observed at the end of the third millennium BC, when we first encounter larger settlements with complex economic and social structures, with specialization in production and distinct social hierarchies. The great administrative centres which we have been accustomed to call "palaces" have their origin in these communities' efforts to co-ordinate production and exchange, to co-ordinate the collection, storage, and redistribution of food that would enable them to overcome periods of shortage, to exploit the complementary small landscapes of a region and to support specialization in production. We now have to abandon the view that Knossos was the central palace of Crete, the residence of the ruler of the entire island. The discovery of many more similar, albeit smaller building complexes ("palaces"), rather favours the pattern of regional centres, which were part of the same economic and cultural, and to some extent also administrative, network. The integration of Crete into a single network of economic exchange, supported by administrative structures encompassing large parts of the island, facilitated the exploitation of the diverse landscape and its complementary resources. This went hand in hand with the development of specialized manpower: builders, shepherds, sailors, farmers, stonecutters, metalworkers, potters, etc. It was this co-ordination that enabled Crete to produce surplus (oil, wine, perfumes) and to export it. After the abandonment of the Mycenaean administrative system around 1200 BC, we will have to wait until the late first century BC to encounter the pattern of unity again.

The collapse of Mycenaean rule on Crete initiates the pattern of fragmentation, which characterizes Cretan history until the conquest of Crete by the Romans in 67 BC. In the Archaic, Classical and Hellenistic periods Crete was the paradise of the dwarf city-states³³. Predominant in these periods was the subsistence economy based on agriculture and animal husbandry. Large-scale farming and manufacturing connected with exports seem to have been of limited importance in the Cretan economy before the Roman conquest³⁴. The stability of this system required that a community owned enough land for its subsistence. Its priority was to defend its own territory and to expand, whenever possible or necessary. It is not surprising that wars were endemic on Crete. Crete was an area with intensive contacts with the rest of the Greek world, especially in the Hellenistic period, but these contacts took primarily three forms: the service of mercenaries in the Hellenistic armies; the

³³ Cretan *poleis*: Chaniotis 1996, 12-13 note 36; Perlman 2004.

³⁴ Chaniotis 1999, 182-186; Chaniotis 2005b. Transit trade (E.g. Viviers 1999) or the import of pottery or luxury goods (E.g. Athenian pottery: Erickson 2005) are certainly important economic phenomena, but entirely irrelevant for an assessment of local production. Autarky as an economic model in ancient Greece: see note 17.

raids of the infamous Cretan pirates in the Aegean; and –related to these raids– transit trade and trade with war booty and slaves³⁵. Economic production was aimed mainly at funding the *syssitia* with contributions of citizens, the community and the tithe of the dependent population. Consequently, the economy of Classical and Hellenistic Crete was dominated by the production of staple goods for local consumption. Trade did exist, in particular within the island, but it was rather limited. Long-distance trade existed too, but to the best of our knowledge not in connection with a planned and intensive production of surplus.

We can best understand the economic importance of environmental diversity in Crete, when we consider the efforts of the numerous small communities to achieve their self-sufficiency. Self-sufficiency does not require a large territory but a diverse one, with a variety of environments suitable for different activities. The Cretan polities need land for arable farming; pasture on the mountains in the summer; areas suitable for olive trees, vineyards and orchards; coastal plains and islets as pasture for the livestock in the winter; a naturally defensible or fortified hill at some distance from the coast; but also access to the sea for transportation. The Cretan landscape offered this variety and diversity, in addition to a mild climate and abundant water, and this is why the island was so famous for its fertility and its population density in certain historical periods, despite its mountainous character. The mountains offered pasture, timber and even areas suitable for farming (highland plains, terraces on slopes)³⁶. Applying the widespread model of the *ano* and *kato* polis, many Cretan cities had both a citadel in the hinterland and a harbour on the coast³⁷.

The complementarity of micro-landscapes can be observed in one of the most important economic activities: animal husbandry. Although it is possible to keep a small number of livestock in any area –as they only need limited pasture–, the herding of large flocks requires pasture both in coastal areas in the winter and on the mountains in the summer; in other words, it requires the seasonal movement of animals in diverse climatic zones³⁸. Transhumance (the modern phenomenon of *cheimadia*) was one of the most important problems for which provision was made in the numerous treaties between Cretan cities in the Hellenistic period³⁹. The reasons are obvious: in order to move from one climatic zone to another, the transhumant shepherds had to

³⁵ Chaniotis 2005b.

³⁶ Chaniotis 1999.

³⁷ Kirsten 1942, 83–84; Chaniotis 1996, 104–105.

³⁸ Chaniotis 1999; Chandezon 2003. Cf. Georgoudi 1974; Forbes 1994.

³⁹ Chaniotis 1999.

cross the borders of many cities and to use pasturage in foreign territories. This led to conflicts concerning boundaries, the division of pasture, the paying of customs, animal theft.

We have to wait until the Hellenistic period to observe again a tendency towards an integration of the rival Cretan communities: a military alliance (*Koinon ton Kretaieon*) comprised most of the poleis; a few cities (Knossos, Gortyn, Hierapytna, Lyttos) expanded at the expenses of their neighbours, creating large territories that resemble the large administrative units of the palatial period; treaties of isopolity enhanced the economic co-operation between communities with different needs and complementary resources⁴⁰. Finally, the pattern of unity was imposed on Crete by an external power: Rome.

In the period of Roman rule the island was under a unified administration; polis boundaries no longer presented obstacles to the transportation of goods; land ownership was no longer confined to a class of privileged warrior-citizens; legal and social discrimination against merchants and craftsmen disappeared; merchants from Rome and Italy arrived, eager to exploit the island's economic potential; an aristocracy that encompassed the entire island controlled territories in distant places and promoted exchange; the surplus (especially of wine and olive oil) was produced in close connection with trade⁴¹. The new orientation of the Cretan economy can best be observed in the wine trade. Wine was continually one of the most important products from the Minoan period onwards, but intensive wine trade was practised only under the Romans and the Venetians, i.e. during periods of foreign rule in which the Cretan economy was oriented towards the West. Wine was traded to a very limited extent in Hellenistic Crete, but massive exports throughout the Mediterranean, from Asia Minor to Spain, from the Black Sea to north Africa, are only attested in the Imperial period⁴².

The Cretan landscape was a protagonist in history, in the sense that it presented the inhabitants of Crete, the never-ending succession of immigrants and conquerors –Minoans, Achaeans and Dorian Greeks, Phoenicians, Romans and Italians, Jews, Slavs, Arabs, Venetians, Ottoman Turks– with a challenge. How can this island, diverse but limited, confined but divided, support its population? The history of settlement and political organization in Crete is the history of different responses to this elementary question.

⁴⁰ *Koinon ton Kretaieon*: Chaniotis 1996, 99–100; cf. Chaniotis 1999c. Expansion: Chaniotis 2005a, 9–12. Isopolity: Chaniotis 1996, 101–104; Chaniotis 1999b, 198–204; Guizzi 1999.

⁴¹ Economy of Roman Crete: Chaniotis 2008.

⁴² Wine trade: Chaniotis 1988 and 2005b; Marangou-Lerat 1995.

3. *Aegean networking: a network of disciplines*

The paradigm of Crete, briefly sketched above, shows different responses to the same challenge and is not applicable without modifications to other islands. Nonetheless, it exemplifies the necessity of contextualizing the evidence –all kinds of evidence– and at the same time the necessity of considering developments over long periods of time⁴³.

This volume is a good example of such a study of the source material. The contributions range chronologically from the Early Bronze Age to the Byzantine period; they combine the microscopic analysis of particular types of evidence (coins: Tselekas – Papageorgiadou, Kasdagli; lamps: Katsioti; grave goods: Triantafyllidis) with overviews of larger chronological periods (Michailidou – Doğan: Bronze Age; Deligiannakis: Late Antiquity) and of the economy of individual islands (Touratsoglou – Tsakos: Samos; Palaiokrassa – Vivliodetis: Andros); they remind us that the Aegean economic networks were only parts of much larger networks (Michailidou – Doğan), which include the Near East (Triantafyllidis), and of course at times, Egypt, the Black Sea and the western Mediterranean; they remind us that coins are not only interesting for iconography, but also important for studies of economic history, provided that they are found and studied in context and not in the Swiss, German or American antiquities market; they remind us that the mobility of artefacts (e.g., sculpture) reflects more general trends.

In the twentieth century, the study of ancient Greek economy was dominated by ideologies and theories. Things have changed, not only because of the purported death of ideologies after 1989, but also because the availability of huge corpora of evidence (of amphora stamps, lamps, tiles, and other instrumenta domestica, coins, pottery, inscriptions, etc.) has made the reconsideration of both the clichés in the literary sources and the modern theoretical models necessary –and, to a certain extent, possible⁴⁴.

⁴³ Cf. the paradigms of Melos (Renfrew – Wagstaff 1982, 3–5 and passim) and Keos (Cherry – Davis – Mantzourani, 457–479).

⁴⁴ Cf. the remarks by Davies 2001, the studies by Bresson 2000, and the articles collected in a series of recent collective volumes: Chaniotis (ed.) 1999a; Archibald et al. (eds) 2001; Cartledge et al. (eds) 2002; Archibald et al. (eds) 2005.

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İncifer Banu Doğan (Part I)
Anna Michailidou (Part II)

*Trading in prehistory
and protohistory:
Perspectives from the
eastern Aegean and beyond*

*Dedicated to the memory of Alikı Michailidou
one of the first women students of her time
in the Aristotle University of Thessaloniki.*

*PART I: TRACING TRADE ACTIVITIES IN THE ARCHAEOLOGICAL
RECORD*

IT IS WELL KNOWN that from the Upper Paleolithic onward, various items moved over long distances. The question arises, however, as to whether these items were "traded" or travelled by some other mechanism. We shall attempt to outline the concept of *trade* and *exchange*, and to discuss various criteria for determining traces of the acquisition or provision of goods (or services) in an archaeological context. We append some examples on the subject.

In all trade and exchange studies, we face a semantic problem. There is no single concept of trade in prehistory that is unanimously accepted. Consequently, any scholar who studies trade and exchange needs to define what he means by the term "trade", something that is too seldom done. Most authors assume that they are dealing with trade when considering the long-distance movement of some object¹. However, "trade" in prehistoric times is not so obvious. Besides archaeological evidence, ethnographic data also offer a rich range of alternative models for trade and exchange, which should be borne in mind when searching for trade in prehistory.

¹ Bloedow 1987, 60.

On the definition of trade

Although there are numerous studies on the subject, few of these are systematic and comprehensive. Opinions are contradictory and therefore confusing. Jahn² has already described the situation:

Diese auffallenden Gegensätze in der Frage eines vorgeschichtlichen Handels sind nur möglich, weil die verschiedenen Forscher den Begriff Handel ganz verschieden auslegen. Es kommt also darauf an, eine Klärung über den Begriff Handel herbeizuführen.

Since the problem has remained for fifty years, it is clearly useful to take a look at the definitions given by the most frequently cited researchers.

One of these, Polanyi³, offers two different definitions of trade. The first is that: "from the institutional point of view, trade is a method of acquiring goods that are not available on the spot". Trade is an activity which is external to the group, like hunting, undertaking an expedition or raiding. Although all these activities are means of procuring and transporting goods from a distance, trade is distinguished by its bilateral and peaceful nature. The second definition relates to the market: "Trade is the movement of goods on their way through the market, that is, an institution embodying a supply-demand-price mechanism"⁴. Polanyi's view is that in primitive conditions, different communities meet to exchange their goods, although these meetings do not produce rates of exchange. Indeed, they presuppose them. No individual motives of gain are involved⁵.

From the anthropological viewpoint, material relations are rarely regarded as "trade". Anthropologists tend to use the term "exchange", which derives from the concept of "gift exchange", developed in Mauss's essay "The Gift"⁶. Mauss observed that in a range of societies, exchanges and contracts take place in the form of gifts. Although these may be seen as voluntary, in reality, they are given and reciprocated as an obligation⁷. This acceptance leads us to the notion of reciprocity, which is fundamental to trade and exchange studies. We should remember that Mauss does not attempt to embrace and analyse all forms of exchange in primitive and archaic societies. Rather, he focuses on one particular form of exchange in all societies, including our

² Jahn 1956, 5.

³ Polanyi was an economist and the founder of substantivism, a cultural approach to economics which emphasizes the fact that economies are embedded in society and culture.

⁴ Polanyi 1975, 133.

⁵ Polanyi 1975, 134; For a recent discussion on Polanyi's contribution to trade studies, cf. Clancier et al. 2005.

⁶ Mauss 2002.

⁷ Mauss 2002, 3.

own⁸. Anthropologists tend to concentrate on "primitive" communities, in most of which face-to-face exchange activities take place. The interesting point is that archaeologists often use the anthropological terms without fully examining them. In pre-monetary communities, the social aspect of exchange is sometimes more important than economic relations as a whole. To quote Sahlins: "A material transaction is usually a momentary episode in a continuous social relation"⁹.

Among archaeologists, Renfrew has stated that professional trade was probably absent from most prehistoric communities. In his view, "trade" is to be understood in its broadest sense, as the reciprocal traffic, exchange, or movement of materials or goods through peaceful human agency¹⁰. Elsewhere, Renfrew has written that trade is the "procurement of materials from a distance, by whatever mechanism"¹¹. The crucial point is that goods change hands. The terms "trade" and "exchange" are employed interchangeably¹². In a later study, the same scholar defines trade and exchange as follows¹³:

... When exchange is referring to material goods, it means much the same as trade. But exchange can have a wider meaning, being used by sociologists to describe all interpersonal contacts, so that all social behaviour can be viewed as an exchange of goods, non-material as well as material. Exchange in this broader sense includes the exchange of information.

In the view of the archaeologists Runnels and Van Andel, the term "trade" has hitherto been applied somewhat loosely and interchangeably with the term "exchange", to describe the general process of transferring commodities from one person or group to another¹⁴. Although some analyses of spatial distribution of commodities present problems of equifinality¹⁵, we should not be too pessimistic about the possibility of tracing the movement of objects, because the problems will remain, even if some other term is adopted, such as

⁸ Panoff 1970, 60.

⁹ Sahlins 1998, 82.

¹⁰ Renfrew 1969, 152.

¹¹ Renfrew 1977, 72.

¹² Knapp 1985, 1.

¹³ Renfrew and Bahn 1991, 307.

¹⁴ Runnels and Van Andel 1988, 92.

¹⁵ When Hodder (e.g. see Hodder 1974) tested various hypotheses about a particular spatial distribution, he sometimes found that more than one hypothesis could lead to exactly the same pattern. This phenomenon is called "equifinality". If even the most objective scientific testing could not always distinguish between two or more possibilities, he asked himself how archaeologists could be certain that their interpretations of the archaeological record were correct (Balter 2005, 68).

"exchange" or "interaction", instead of "trade"¹⁶. In any case, it should be borne in mind that "the artefacts in the archaeological record, when found as part of recognizable patterns of distribution, are the residues of trade, but they are only the material part of larger, rather complex processes involving social transfers"¹⁷.

Trade is often defined briefly as a large-scale, organized activity whose aim is profit or the accumulation of capital. This is undoubtedly true, but we should add to this definition that trade is also an activity which requires at least one middleman, who practises it as a profession, with a view to gaining profit, or at least a living. The accumulation of capital is the subject of another, separate, debate. Here I wish to emphasize the role of reciprocal exchange (e.g. barter) as an instrument of trade, something that is often underestimated. Ethnographic data make it clear that there are profitable transactions that can also be regarded as trade in some cases of reciprocal exchange. Moreover, barter is still engaged in as a type of trade in Anatolia.

When the problem of defining trade starts: identifying archaeological finds of foreign origin

Generally, the first stage in any study of trade and exchange in prehistory is to determine whether objects at a particular site are "foreign" or not¹⁸. Some criteria for identifying objects as "foreign" as opposed to local products in an archaeological context are the following:

1. A limited spatial distribution of the sources of a raw material.
Some raw materials, such as obsidian, amber and bitumen, originate from particular, limited sources and are chemically traceable. So, when they are found in an archaeological context at a distance from their source, they can be identified immediately as "foreign".
2. Stylistic elements or techniques differing from those of other objects of the same class at a site¹⁹.

In the case of pottery or of stone objects, merely examining the material by eye is often the best means of classing it as foreign or local. However, to document this ascertainment objectively, "characterization" studies are required, in order to identify characteristic properties of the material and thus to determine its source²⁰. In cases of objects made of material available

¹⁶ Runnels and Van Andel 1988, 93; Torrence 1986, 10–37.

¹⁷ Runnels and Van Andel 1988, 94.

¹⁸ Olausson 1988, 15.

¹⁹ Olausson 1988, 15.

²⁰ Renfrew and Bahn 1991, 314.

locally, the techniques used in their manufacture may be the imported, foreign element. For example, items of Halaf pottery or, in later periods, of Mycenaean pottery may be local imitations and therefore not in themselves items of trade.

3. The lack of a local precedent for a specific type of object²¹.

For example, the pottery of the earliest Pottery Neolithic (PN) level, phase IIC, from Mezraa-Teleilat, a site in South East Anatolia, on the left bank of the Euphrates, is very simple coarse ware, made of clay with straw temper, and has an unburnished surface, light buff in colour. However, the wares of the previous phase III, that is, of the transitional period from Pre-pottery Neolithic to Pottery Neolithic (PPN to PN) are made of clay with mineral temper, are well-burnished and brown in colour. Because of this striking difference in fabric and technique, it is assumed that the earliest fine pottery was produced elsewhere and imported to Mezraa-Teleilat²².

4. A lack of production steps for a specific type of object.

For example, at the site of Dja'de in North Syria, which is dated to the Pre-pottery Neolithic B (PPNB) period, obsidian is found only in form of bladelets made by the pressure-flaking technique. Both chemical analyses of the raw material and the production technique indicate that these bladelets come from Kömürcü-Kaletepe, a well-known source of obsidian in Central Anatolia. Since there is no evidence of production *in situ*, it is clear that the obsidian at Dja'de was imported into the settlement in the form of ready-made bladelets²³.

The problem of tracing trade in the archaeological record

Economic infrastructure

It is generally assumed that trade and exchange studies deal with mapping the distribution of particular materials or artefacts. However, when attempting to trace trade in the archaeological record, the relationship between this problem and the four steps involved in an economic system, namely raw material procurement, production, distribution and consumption, should be taken into consideration.

In regard to raw material procurement, the processes of acquisition and diffusion of obsidian, for example, are now better understood thanks to the excavations at the site of Kömürcü-Kaletepe. Although no remains of a set-

²¹ Olausson 1988, 15.

²² Karul et al. 2002, 138.

²³ Balkan-Atlı 2003, 12.

tlement have yet come to light, there is evidence of workshops dated within the Early and Middle PPNB period (8600–7500 cal. BC). Research on this raw material resource indicates that the exploitation of obsidian at this site was organized by highly-skilled craftsmen, that the products were rigorously selected in the *chaîne opératoire* and that they were diffused over very long distances, up to 900 km (e.g. at the sites of Beidha or Nahal Lavan in Levant²⁴), whilst even maritime routes were used (e.g. at the site of Shillourokambos in Cyprus²⁵)²⁶.

In regard to production, an example is the shell of the mollusc *Spondylus gaederopus*, a large and durable bivalve of Mediterranean origin²⁷, which Neolithic peoples used to make various objects, especially ornaments. *Spondylus* shells, either as raw material or as finished products²⁸, were transported far inland and are one of the most spectacular indicators of large-scale trade in Neolithic Europe²⁹. The evidence of the large-scale manufacture of *spondylus* shell objects at Dimini, a Late Neolithic settlement near Volos in Greece, suggests that there were various trade routes from the Aegean coast into the Balkans. It is presumed that the *spondylus* shell objects found in the Aegean region during the Neolithic periods, especially in Thessaly and Macedonia, were produced intentionally for trade with more distant regions, rather than as goods for local consumption³⁰.

In regard to distribution, the presence of a raw or manufactured material from a known source constitutes indirect evidence of trade. However, it should be borne in mind that trade is only one of various distribution mechanisms, such as the following³¹:

- a. The movement of objects through the agency of traders, itinerant vendors or craftsmen.
- b. The movement of objects through the agency of individuals or groups (such as gifts, dowries, blood-price) in a more or less momentary context.
- c. The movement of objects through the agency of social groups engaged in specific organized activities, such as colonization, warfare, raiding.
- d. The circulation of technical expertise and ideas in general, since objects can be imitated and ideas adopted.

²⁴ See Cauvin and Chataigner 1998, 334–5.

²⁵ See Briois et al. 1997, 105.

²⁶ Binder 2002, 79–80.

²⁷ Séfériades 1995, 238.

²⁸ Clark 1966, 241.

²⁹ Tsuneki 1989, 1.

³⁰ Tsuneki 1989, 18.

³¹ Olausson 1988, 18.

Furthermore, a dichotomy may be observed between staples and luxury goods, which are often distributed separately in local and long-distance exchanges respectively, although there are exceptions to this norm. Local exchanges tend to be customary and reliant on established, known conditions, whereas long-distance exchanges require security, accommodation, food and the fulfilment of other needs, and are therefore more collective and organized in character.

The distribution map of a particular material in no way constitutes a *cultural* region. Distribution of a material is independent of cultural borders.

In regard to consumption, this has been traced, particularly of exotic items, even in Upper Paleolithic contexts³², wherever social networks are thought to have provided an effective mechanism for distribution over extensive territories³³. Most exotic materials are used for ornaments. White has studied ornaments, such as pendants and beads, at three important Aurignacian areas (Abri Blanchard, Castanet and La Souquette) in the Vézère valley in southwest France. Although mammoths are very rare in French Aurignacian areas (and at most Upper Paleolithic sites in general), hundreds of sticks of mammoth ivory, the raw material for bead production, have been found in the Vézère valley, where mammoth bones are totally absent. These sticks are thought to have been imported, in exchange for shells, from the region that is now Germany, where this semi-finished form of ivory was very probably produced³⁴.

Parameters influencing interpretation

If we accept that the first law of the exchange is reciprocity, we should remember that technical or medical knowledge and skills or, indeed, any kind of service, could have been given in return for goods. There are other parameters, too, to our discussion of possibilities of trade:

a. The concept of "foreign origin".

When we look for items of foreign origin, small-scale acts of exchange and/or gift-giving are not likely to be archaeologically visible, although they may have been of great importance to the society in question. Large-scale patterns, rather than smaller discrete events, are more visible in any identification of trade³⁵.

³² White 1982, 172.

³³ Mellars 1989, 360.

³⁴ Lewin 1998, 182.

³⁵ Olausson 1988, 22.

- b. The distance between raw material source and the site.

Any consideration of the distance between raw material source and the site, with regard to trade, should discount the probability of "direct access". A good example is the case of obsidian and flint found at Aşıklı, a settlement in Central Anatolia, a region rich in obsidian sources. Whereas obsidian was an exotic material for most settlements in the Near East, it was a common material at Aşıklı, dominating the tool/weapon industries at the site³⁶. Since only five tools of flint have been recovered from the settlement, it is deduced that flint counted as an import from other regions³⁷. Obsidian was brought to Aşıklı in the form of nodules and flaking and shaping took place within the settlement. Examination of the obsidian products shows that they were all consumed within the settlement. These findings present a very simple model, whereby the inhabitants of Aşıklı exploited and consumed the material they needed themselves³⁸.

- c. Unavailability of various objects in the local environment.

- d. Continuity of an object of foreign type in the stratigraphical sequence.

The presence of one "foreign" object in one stratigraphical level probably reflects some mechanism other than trade. Trade is to be regarded as a large-scale, continuous operation, as is the case with the large quantities of obsidian found in successive levels at Akarçay Tepe in South East Anatolia. Considering the distance of the site from the nearest source, which is 300 km away, the quantity of material found is considerable. More important is the fact that obsidian exists in all phases of the settlement. However, while the percentage in phases VI and V is around 76%, a progressive decrease is observed from phase IV onward. In the opinion of the excavators of the site, this most probably reflects a change in the status of obsidian as an exchange commodity throughout the life of the settlement³⁹.

- e. The existence of workshops producing more artefacts than are consumed at the site.

For example, in the fourth level of the site at Aşağı Pınar, in the province of Kırklareli in Eastern Thrace, a workshop has been uncovered, in which pendants were made from materials such as spondylus shell, malachite and rock crystal, whose products reached as far as Romania⁴⁰.

³⁶ Geochemical analysis indicates that much of the obsidian came from the sources at Kayırlı and Nenezi near Gölüdağ (Esin and Harmankaya 1999, 130).

³⁷ Esin and Harmankaya 1999, 130.

³⁸ Balkan-Atlı 2003, 10-1.

³⁹ Arimura et al. 2001, 352.

⁴⁰ Özdoğan 2007, 486.

- f. Centres for rituals or other gatherings as places of exchange.
Göbekli Tepe is a monumental and enigmatic PPN site located on top of a high limestone ridge, northeast of the town of Şanlıurfa (Urfa) in Upper Mesopotamia. No comparable sites from the Neolithic period are known so far. It consists of circular enclosures, in which stand monumental T-shaped pillars adorned with reliefs of animals and signs⁴¹. To date, no traces of daily life have been found⁴² and the site is thought to have been a place where the inhabitants of villages in vicinity gathered on special occasions. Such gatherings were an excellent occasion for exchange of goods and ideas⁴³.
- g. Special geographical locations facilitating trade.
A geographical location on, for example, a water transportation system, such as the banks of the Euphrates, or at a pass, such as the "Cilician Gates" in the Taurus Mountains, is an important parameter that should obviously be considered, when studying trade.
- h. Proximity of the site to an important resource.
The proximity of a site to some important resource does not necessarily preclude trade. In addition to what has been said above under b, "direct access" may occasionally indicate the involvement of nearby settlements in export-oriented trade. A revealing example comes from Neolithic Poland. Two important sources of flint in Poland are at Świeciechów and Krzemionki. Flint from Świeciechów, white on a grey ground, is high quality and suitable for knapping flakes. Flint from Krzemionki is striped and of poor quality, but when polished is most attractive and so suitable for celts⁴⁴. Balcer showed that at the site of Cmielów, only 22 km from Świeciechów and 8 km from Krzemionki, where over 40,000 flint artefacts have been unearthed, 62% of flints are from Krzemionki and 38% from Świeciechów. At this and other sites near flint resources, flints were prepared for hafting, polishing and reshaping with the intention of putting the implements into circulation once more⁴⁵.
- i. The level of developed skills in art and handicraft.
An ethnographic study of the Anuak people in Ethiopia has shown that in order to obtain salt, rifles, iron tools, utensils and even modern clothes, they traded fish, firewood, honey, basketwork and adornments made of materials such as pearls, shells, ivory and giraffe tails. Their highly devel-

⁴¹ Schmidt 2002, 8.

⁴² Schmidt 2007

⁴³ Schmidt 2002, 12.

⁴⁴ Balcer 1999, 310.

⁴⁵ Balcer 1999, 314.

oped techniques were much appreciated in the area⁴⁶, but most of these traded materials, especially the handicrafts, would leave little or no trace in the archaeological record.

The importance of ethnographic data in trade studies: inland Anatolia

Archaeologists often employ Malinowski's, Mauss's or Sahlins's exchange models of "contemporary" pre-industrial societies in their studies of trade in antiquity. Ethnographic data on trade and exchange activities are significant because they reveal how rich an array of alternatives we may have in our interpretation. However, they also show that it is not possible to draw any direct analogies, even in cases of similar ecological conditions and/or production structures. Trade and exchange activities depend mostly on cultural practices and social organization. Although every region should rely on its own ethnographic data, there is so far little ethnographic data for economic practices in Anatolia. Evedik⁴⁷, a village near Ankara, is a rare example, which illustrates the conservatism of the rural economy and how heavily it is based on local exchanges, rather than on market transactions. Like many other places in Anatolia, although Evedik is set in a monetary economy, the villagers find barter more profitable than buying and selling, and it is widely used because it does not involve commission for middlemen or any transport costs⁴⁸. Barter also enhances the cohesiveness of social relations, in cases where people are deeply in need of such relations. The inhabitants of rural areas depend on each other⁴⁹. So, villagers who cultivate potatoes and onions, for instance, are aware of those who can offer wild plants, should they be needed, but who do not possess money to purchase their necessities. There is a strong belief that one should not deny those in need, if one possesses what is required. Thus, the people of the plains accept the wild plants brought by mountain villagers and offer as much as they can in return⁵⁰. In times of scarcity, especially during winter, dried foods or fuels may be traded with the inhabitants of areas where these commodities are in short supply, while professionals, such as potters, prefer to trade their products during late autumn, when every household has a quantity of grain to exchange for the pots⁵¹.

⁴⁶ Akalu and Stjernquist 1988, 9.

⁴⁷ Aran 1938.

⁴⁸ Aran 1938, 129.

⁴⁹ Ertuğ-Yaraş 1997, 95.

⁵⁰ Ertuğ-Yaraş 1997, 96.

⁵¹ Ertuğ-Yaraş 1997, 95.

Some unit of measure is also used for bartering in villages. In the case of wild plants traded for marketable goods, such as onions and potatoes, the sieve was used as a unit of measure. One sieveful of onions or potatoes was exchanged for 12 broom plants, and two sievefuls were given in exchange for one animal load of fuel plants⁵². In the case of marketable goods such as pottery, the volume of grain that filled the pot was given in exchange for it. It was also said that if a pedlar brought oranges, the villagers paid, volume for volume, with some other foodstuff, such as potatoes or onions; one bucket of apples was exchanged for one bucket of potatoes⁵³.

Until the 1970s, long-distance trade was carried out by camel caravans, which followed old routes, such as part of the Silk Route, from south to West Anatolia. They brought salt, roughly-shaped wood for threshing sledges, and metal tools, which were exchanged for cereals. Nowadays, only salt and some fruits are sometimes exchanged for certain cereals⁵⁴.

We may conclude that in harsh topographical conditions, such as in Anatolia, two trade models can be distinguished as probable in prehistory⁵⁵.

1. Exchange in gathering places.

In view of what has been said about Göbekli Tepe, it should be noted that some gathering places in Anatolia were used by the nomads until the late 1960s⁵⁶.

2. Exchanges made by itinerant vendors and craftsmen (whether repairmen or specialists).

In addition to individuals who exchanged their products within their own village or in nearby villages, until the recent past there were also pedlars who bartered professionally. The pedlar usually used donkeys or mules, even carts when possible. Other itinerant craftsmen, such as horseshoe-makers, often accepted goods rather than money⁵⁷.

For thousands of years, distance was no barrier to the procurement of necessities. Language, ethnic origin, units of measurement, technical differences and lack of pack animals were no obstacle either. These differences and constraints made things difficult, but did not impede them completely.

⁵² Ertuğ-Yaraş 1997, 95.

⁵³ Ertuğ-Yaraş 1997, 95.

⁵⁴ Ertuğ-Yaraş 1997, 96.

⁵⁵ Doğan 2006, 212-213.

⁵⁶ Personal communication with Mehmet Özdoğan in 2005.

⁵⁷ Ertuğ-Yaraş 1997, 95.

Sea trade in the Aegean from both sides: the case of obsidian

Obsidian is a volcanic glass, which was one of the most appreciated raw materials in prehistory⁵⁸. Among the most easily detectable raw materials that are evidence of long-distance trade, or at least of contact, such as lapis lazuli, amber and shells, obsidian⁵⁹ is of a particular interest because of the following:

- a. It has a limited occurrence throughout the world. Apart from the Americas, Africa and a few other places, obsidian exists in Armenia, various western and central Mediterranean islands (Lipari, Pantellaria, Pontine islands, Sardinia), in islands in the Cyclades and the Dodecanese in the Aegean (Melos, Giali), and in Anatolia (Cappadocia: Acıgöl, Göllü Dağ, Nenezi Dağ, etc., Eastern Anatolia: Lake Van, Nemrut Dağ, etc.)⁶⁰.
- b. Due to its volcanic origin, its physical properties and chemical composition are determined by the magma formation at its source⁶¹. That is, each volcano and, in some cases, each volcanic eruption produces a distinguishable type of obsidian, making it possible to trace the provenance of the obsidian used for a particular artefact.
- c. It was clearly not a luxury commodity, for it was consumed in large quantities, even in places far distant from the particular source. Moreover, it was not indispensable, for other alternative materials (flint or chert) were available for use⁶².
- d. Its physical and chemical properties are not altered during the production and use of artefacts made from it⁶³.

In the Aegean, the earliest evidence of Melian obsidian found at distance from the source comes from Franchthi Cave, in late Upper Paleolithic levels (c. 11th millennium BC.)⁶⁴ In Western Anatolia, pieces of Melian obsidian found in Neolithic levels at sites such as Altınkum Plajı⁶⁵ near Didyma or Dedecik-Heybelitepe⁶⁶, some 35 km south of Izmir, demonstrate contact with the Aegean. Results of recent analyses of obsidian artefacts from the region of Caria⁶⁷, specifically from Loryma on the southwest coast of Turkey and from

⁵⁸ Balkan-Atlı 1999, 134.

⁵⁹ Obsidian characterization studies represent one of the great success studies of Archaeometry" say Carter and Kilikoglou (2007, 115); their article includes the most recent information on characterization studies of obsidian.

⁶⁰ Özdoğan 1994, 424; Torrence 1986, 11; Balkan-Atlı 1999, 135.

⁶¹ Özdoğan 1994, 424.

⁶² Özdoğan 1994, 424.

⁶³ Özdoğan 1994, 424.

⁶⁴ Perlès 1987, 143.

⁶⁵ Mosheim and Althaus 1984, 26-8.

⁶⁶ Lichter 2005, 61.

⁶⁷ Schüssler et al. 2006.

Latmos, a mountain in the hinterland of Miletos, show that Melian obsidian, rather than obsidian of Cappadocian provenance, was used along the west coast of Anatolia in the Neolithic Age.

On the other hand, as already mentioned, Cappadocian obsidian was found at the site of Shillourokambos on Cyprus⁶⁸, in contexts dated to the second half of the 9th millennium cal. BC. Although obsidian in this phase comprises only 2% of the stone artefact assemblage, it is important in that it reflects contacts with the mainland at the time⁶⁹. And although the widespread distribution of obsidian in the Aegean is centred on the Melos source, this is not to the exclusion of Anatolian obsidian. At Knossos, for example, where in the Central Palace Sanctuary Area, the "Vat Room Deposit" yielded 119 pieces of obsidian, this included some blades and one nodule from Central Anatolia⁷⁰, dating from the Middle Minoan (MM) IB period⁷¹.

Another interesting case is Quartier Mu⁷², an important Middle Bronze Age complex at Malia in central Crete (MM II period), where east Göllü Dağ material accounts for only 0.3 % of the total amount of obsidian. In sum, although the quantities of east Göllü Dağ obsidian entering Crete (Knossos, Phaistos and Malia) are very limited, in fact only a few nodules, they nonetheless indicate contact between the two regions, Central Anatolia and Crete⁷³. Carter and Kilikoglou argue that the Cappadocian obsidian was embedded in the metals trade between the above regions⁷⁴ and they suggest, furthermore, that Anatolian obsidian came as a form of royal gift, which established relations between Cretan elites and inhabitants of the Anatolian kingdoms⁷⁵, though they admit that such a direct connection might still represent "wishful thinking". They further remark⁷⁶ that the first, major use in Crete of the obsidian from Giali, the volcanic island in the east Aegean (Dodecanese), coincides with the Cretan overseas interest in Western Anatolia, attested by the finds at the Middle Bronze Age site of Miletus⁷⁷, a gateway to the Meander river. The Meander valley is part of the Early Bronze Age network of trade

⁶⁸ Briois et al. 1997, 105.

⁶⁹ Guilaïne and Briois 2001, 37, 47.

⁷⁰ Panagiotaki 1999, 25–27; Renfrew 1965, 239.

⁷¹ See also Panagiotaki 1998 and Carter and Kilikoglou 2007, 130, for references to Knossos and also to Platanos (area of Phaistos Palace).

⁷² Carter and Kilikoglou 2007, 115.

⁷³ Carter and Kilikoglou 2007, 135.

⁷⁴ Carter and Kilikoglou 2007, 132.

⁷⁵ Carter and Kilikoglou 2007, 133.

⁷⁶ Carter and Kilikoglou 2007, 136.

⁷⁷ The finds point to a Minoan settlement : Niemeier and Niemeier 1999, 545–546.

routes, from Central Anatolia to the Aegean coast and beyond⁷⁸. The preference for Melian obsidian at sites in Western Anatolia in the Neolithic period is evidence of the very early contacts of the central Aegean islands with the east coast. The important element for our joint paper here is that sea trade routes from the Aegean meet with land trade routes from Central Anatolia; one of the bridges suggested for this contact was the Izmir region⁷⁹, opposite the island of Chios.

⁷⁸ Called by Şahoğlu (2005) as Anatolian Trade Network: cf. the map of fig. 1 in pages 342-343.

⁷⁹ Şahoğlu 2005, 339.

PART II: TRACING TRADE AND TRADERS THROUGH TEXTUAL EVIDENCE

TRENDS AND THEORIES in the study of trade activities are discussed by Doğan mainly in connection with the Neolithic Age, during which most of the traceable items of long-distance circulation were produced from obsidian or spondylus shells. As is evident from the last chapter of Part I, obsidian continues to be traded in the Bronze Age. However, when the invention of alloys gave rise to metal technology, the procurement of metals, such as copper and tin, became the main motive for long-distance trade. Thus, it is in regard to the third and second millennia BC that Postgate notes: "foreign ventures were specialized in terms of the commodities handled and routes followed"⁸⁰.

Literary tradition

In the *Oxford Classical Dictionary*⁸¹, *trade* (or *commerce*), whether local, regional or "international", is viewed as a much later development of exchange; in particular professional trading and traders are regarded as equivalent to the ancient Greek terms ἐμπορία (*emporía*) and ἔμποροι (*émporoi*). The word ἐμπορία is first found in Hesiod in connection with seafaring⁸². In Aristotle, ἐμπορία is defined as the most important form of exchange:

τῆς δὲ μεταβλητικῆς μέγιστον μὲν ἐμπορία καὶ ταύτης μέρη τρία, ναυκληρία φορτηγία παράστασις... δεύτερον δὲ τοκισμός, τρίτον δὲ μισθαρνία...⁸³.

There is a passage in Thucydides, in the first twenty chapters known to classical scholars as "*The Archaeology*" (meaning the λόγος [discourse] on the ἀρχαῖα [ancient history]), where we read:

τῆς γὰρ ἐμπορίας οὐκ οὔσης οὐδ' ἐπιμιγνύντες ἀδεῶς ἀλλήλους οὔτε κατὰ γῆν οὔτε διὰ θαλάσσης, νεμόμενοί τε τὰ αὐτῶν ἕκαστοι

⁸⁰ Postgate 2003, 5.

⁸¹ Hornblower and Spawforth 1996, s.v. trade, commerce.

⁸² Hesiod, *Work and Days*, l. 646–650.

⁸³ *Of the kind that deals with exchange, the largest branch is commerce (which has three departments, ship-owing, transport and marketing...) the second branch is money-lending, and the third labour for hire...* (Aristotle, *Politics* I iv, 2–3, The Loeb Classical Library); cf. Casevitz 1993, 14–15.

ὅσον ἀποζῆν καὶ περισσίαν χρημάτων οὐκ ἔχοντες...⁸⁴.

As Gomme comments, Thucydides, who is well aware of the importance of economic factors in history, in this passage is primarily thinking of the pre-Trojan era. He regards commerce as the first sign of a settled way of life and of higher standards of living. He also understands the significance of the accumulation of capital (*περισσία χρημάτων*) and the opportunity this affords for planning ahead⁸⁵. Our conclusion from this passage is that it was the motive of *commerce* that finally made people *unafraid* of each other.

Similar stories about ancient times when no trade relations existed among people, are evidently part of the tradition of other cultures too. In the Sumerian poem of the twenty-first century BC, entitled "Enmerkar and the Lord of Aratta" the story again tells of a primeval stage in man's history when no trade existed between Uruk in Mesopotamia (rich in grain) and Aratta somewhere in Iran (blessed with metal and stone)⁸⁶, and so neither valuable materials, such as gold, silver, copper, tin and lapis lazuli, nor craftsmanship are available to lower Mesopotamia. The lord of Uruk therefore sends a messenger to the country of Aratta, to demand these commodities. There follows a series of moves and counter-moves by both sides, in which, in Zaccagnini's view, we notice a shift from a "redistributive" approach to a "reciprocal" pattern of interaction, which is gradually but firmly imposed by the lord of Aratta. The story ends with the establishment of peaceful "commercial" relations between the two countries, which thereby ensures deliveries of figs and grapes from Uruk in exchange for valuables to be sent by the lord of Aratta. Zaccagnini further comments that since figs and grapes, unlike barley or sesame, were not typical southern Mesopotamian products but exotic foodstuffs imported to Sumer, "this is a clear hint that the exchanges between Uruk and Aratta are also eventually arranged on a true parity level with respect to the 'market' qualifications of goods"⁸⁷. Thus, mutuality, a peaceful approach and the exchange value of commodities gradually form the context in which the messenger of the lord of Uruk moves, as he mediates a "trade" connection between the two countries⁸⁸. Furthermore, we know that in later periods the

⁸⁴ "For there was no mercantile traffic and the people did not mingle with one another without fear, either on land or by sea, and they each tilled their own land only enough to obtain a livelihood from it, having no surplus of wealth..." (Thucydides A.II. 2, The Loeb Classical Library).

⁸⁵ Gomme 1971 (1945), 92.

⁸⁶ Hallo 1992, 353.

⁸⁷ Zaccagnini 1993, 34-42, our quotation being from page 42.

⁸⁸ Kramer draws attention to the use in this text of the professional term *nam-garāš-ag* in order "to exercise the profession of travelling merchant" (Kramer 1977, 61).

term "messenger" is occasionally used as a synonym for "merchant"⁸⁹; such is the case in some of the letters found at Amarna in Egypt. One then wonders what the meaning of the word ἄγγελος (messenger?) in Mycenaean Linear B tablets might be, for when turning from Mesopotamia to the Aegean, the literary documents of Mycenaean Greek use no specific term for "merchant"⁹⁰. In Linear B texts there is only indirect evidence for commerce, which has been gathered together in an article by Olivier⁹¹. Perhaps, as already mentioned elsewhere⁹², the fact that this trade is not recorded in Linear B tablets may indicate that in Mycenaean times there was no official specialization in regard to this area of activity.

As is obvious from the Sumerian epic tale discussed above, there is indeed a need for at least one middleman to carry merchandise or/and messages. What, then, of the Greek epic of Homer? There, the term ἔμπορος (*émporos*) refers only to the passenger of a ship not owned by him⁹³. Transportation of merchandise by water is far easier than transportation by land. One may recall the "downstream and upstream" movement of the *šwty* (merchants?), who carried goods along the Nile, as mentioned in the following Egyptian text, from the New Kingdom period:

*The merchants fare downstream and upstream, as they do business with copper, carrying goods [from] one town to another and supplying him that has not*⁹⁴.

Overseas business involving the offering of iron to obtain copper is mentioned in the Homeric passage where Mentis, king of the Taphians, is sailing over the wine-dark sea *to men of strange speech* (my emphasis), on his way to Temese for copper, bearing with him shining iron⁹⁵.

⁸⁹ Cf. indicatively Bachhuber 2006, 351 with references; Zaccagnini 1977, 171-172.

⁹⁰ The idea here is that in Mycenaean times the term *a-ke-ro* might have been used for the envoy of the palace carrying messages and escorting items sent as gifts. The word *a-ke-ro* is found in Pylos tablets Cn 1287, Ea 136, Vn 493; also in Jo 438.20 (as an anthroponym, according to Lejeune 1997, 127 note 9); in the list of professions by Lejeune (1997, 131-133) one *a-ke-ro* with the name of *wa-tu-o-ko* (Ἀστυόχος) is listed among professionals such as priests, tailors, shepherds, etc. In Homer ἄγγελος is often the messenger of gods (as e.g. Iris).

⁹¹ Olivier 1996-97.

⁹² Michailidou in press; for more on the subject of trade and traders, see Kopcke 1990; cf. Michailidou 2000.

⁹³ *Od.* 2, 318-320 and 24, 229-301; Casevitz 1993, 12.

⁹⁴ Castle 1992, 257; Michailidou 2000, 202-205.

⁹⁵ *Od.* 1. 183-184: «πλέων ἐπὶ οἴνοπα πόντον ἐπ' ἄλλοθρόους ἀνθρώπους, ἐς Τεμέσην μετὰ χαλκόν, ἄγω δ' αἰθωνα σίδηρον». According to the Commentary to Odyssey, the Taphians are mentioned elsewhere in the epic as slave-traders and raiders. Perhaps "Temese" is Tamassos (pres. Politiko) in Cyprus, not a port itself but possibly noted by the poet because it is a place associated with copper (Heubeck et al. 1988, 88 and 100).

As Michel has pointed out, the status and name of the merchant need not be the same everywhere. For instance, the Akkadian term for merchant, *tam-kārum*, is not used for any official function in Old Assyrian texts, in contrast to the situation in the case of the Old Babylonian or Nuzi evidence⁹⁶. Furthermore, Postgate notes that in the earlier, Sumerian, texts, there is a distinction between the ordinary merchant (*dam-gār*) and the foreign trader termed *gaeš* or *garas*⁹⁷, a somewhat similar distinction being later in use in ancient Greek, between *κάπηλος* (*kápēlos*) and *ἐμπορος* (*ēmporos*)⁹⁸.

The vocabulary of commerce

In Benveniste's book on the vocabulary of the Indo-European institutions, there is a chapter suggestively entitled "A trade without name: Commerce", in which we read⁹⁹:

La notion de *commerce* doit être distinguée de celles d'*achat* et de *vente* (my emphasis). Le cultivateur qui travaille le sol songe à lui-même. S'il a un surplus, il le porte au lieu où se réunissent les autres cultivateurs pour le même cas et aussi ceux qui ont à acheter pour leur propre subsistance : c'est pas du commerce.

This passage would be most suitable as a caption to the so-called "scenes of the market" of the Old Kingdom Egyptian tomb paintings. Such scenes mainly depict the exchange at local markets of the surplus of the producers, though the appearance of a few craft items, such as sandals, in some of these scenes, points also to a stage of "producing for the market"¹⁰⁰. Benveniste clearly states that:

vendre son surplus, acheter pour sa subsistance personnelle est une chose; acheter, vendre pour d'autres, est autre chose. Le marchand, le commerçant, est un intermédiaire dans la circulation des produits, de la richesse. De fait, il n'y a pas en indo-européen de mots communs pour désigner le commerce et les commerçants¹⁰¹.

⁹⁶ Michel 2005, 128; Zaccagnini 1977 (for the merchant at Nuzi).

⁹⁷ Postgate 1992, 211.

⁹⁸ Liddel-Scott Lexicon, s.v. *Κάπηλος*, In Aristotle, *καπηλική* is the profit-oriented exchange in contrast to the natural exchange named *μεταβλητική* (*Politics* I, iii, 15, The Loeb Classical Library), cf. Michailidou 2005, 24–32.

⁹⁹ Un métier sans nom: le commerce" (Benveniste 1969, 139–140).

¹⁰⁰ Cf. Michailidou 2005, 24–27 with references; See also the ancient Greek word *αὐτοπώλης*, meaning he who is selling his own produce in his land (Liddel-Scott Lexicon s.v. *αὐτοπώλης*).

¹⁰¹ Benveniste 1969, 140; For the terms used in the Classical Greek world, cf. Reed 2003, 6–14.

Commerce is further defined as the handling of merchandise, and in Greek the verb *ἐμπορεύομαι* (*emporeúomai*) meaning "voyager par mer", is used "pour grandes affaires, nécessairement les affaires maritimes" and this is the difference between *ἐμπορος* and *κάπηλος* the latter being defined as "petit marchand, brocanteur"¹⁰². *Κάπηλος* (a non-Greek word according to Chantraine, unless it is connected to *κάπη*, meaning box), is also connected with the trade of the tavern-keeper¹⁰³.

The difficulty of finding an early term for "merchant" is best put by Benveniste's statement that the mercantile exchange does not constitute a unique and homogeneous act, which certainly agrees with what we have said above in regard to Mycenaean texts. Another indication is given by a Homeric passage in which the action of obtaining wine through barter is specifically rendered by a single word, deriving from the commodity of wine: *οἰνίζω* (*oinízō*). The wine is sent by ships by the king of Lemnos in exchange for the following goods given by the Achaeans:

ἐνθεν οἰνίζοντο κάρη κομόωντες Ἀχαιοί,
 ἄλλοι μὲν χαλκῶ, ἄλλοι δ' αἶθωνι σιδήρῳ,
 ἄλλοι δὲ ῥινοῖς, ἄλλοι δ' αὐτῇσι βόεσσιν,
 ἄλλοι δ' ἀνδραπόδεσσι...¹⁰⁴.

Such were the means of payment for the wine, with the metals mentioned in first place. Homeric economy is defined as "une économie à monnaie multiple" (*cf.* the Homeric formula *priasthai kteássi*, "acheter avec des biens")¹⁰⁵ and in this passage what is given in return to Lemnians are the commodities metal, hides, bovines and *slaves* (my emphasis).

One of the differences between trade activities before and after expansion in the use of metals is that, once metals were in use, simple barter could be replaced by exchanges in which both sides made a reference to the value of the exchanged commodities expressed in terms of metal. Metal, in particular silver, is textually documented in the Near East as the chief index of value, though not as frequently used for payment. In regard to the words used for "value" and for "buy" and "sell", we may consult Benveniste again, turning to the chapter entitled "Achat et rachat"¹⁰⁶: There is a rather rare Indo-European

¹⁰² Benveniste 1969, 141; In Herodotus *κάπηλος* is called the retail-dealer (Hdt. I. 94, II. 141) while *ἐμπορος* is the foreign merchant (Hdt. II. 39, IV. 154).

¹⁰³ Casevitz 1993, 8; also Chantraine Dictionary and Liddel-Scott Lexicon, *s.v.* *κάπηλος*.

¹⁰⁴ From these ships the long-haired Achaeans bought wine, some for bronze, some for gleaming iron, some for hides, some for live cattle, and some for slaves" (*Il.* 7: 472-475, The Loeb Classical Library); Alexiou 1953-54, 143; Kopcke 1990.

¹⁰⁵ Descat 2006, 24-25.

¹⁰⁶ Benveniste 1969, 129.

term for value, ἀλφή¹⁰⁷ (*alphē*), preserved in Classical Greek in the adjective τιμαλφής (*timalphēs*) whose literary meaning is "that which sets a price". The relevant verb ἀλφάνω¹⁰⁸ (*alphánō*) is found in Homer in a few passages, where, according to Benveniste it signifies:

rapporter un bénéfice en parlant d'un homme mis en vente par son propriétaire. Tel est le sens propre du verbe valoir...dans le monde homérique *alphánō* se dit exclusivement du profit que procurait la vente d'un prisonnier de guerre¹⁰⁹.

Benveniste notes that in one passage in particular, in regard to a boy who is to be sold, the connection between the verb ἀλφάνω (*alphánō*) and the word ὦνος (*ōnos* meaning "price") is evident:

τόν κεν ἄγοιμ' ἐπὶ νηός, ὃ δ' ὕμιν μυρίον ὦνον
ἄλφοι, ὅπη περάσητε κατ' ἄλλοθρόους ἀνθρώπους¹¹⁰.

In this passage *alphánō* is also connected with the verb περάω (*peráō*), meaning "to transport in order to sell", the transportation being by ship. A similar connection is also evident in the passage in which the son of Priam, Lycaon, addresses Achilles as follows:

ἤματι τῷ ὅτε μ' εἶλες εὐκτιμένην ἐν ἁλώῃ,
καί με πέρασσας ἀνευθεν ἄγων πατρός τε φίλων τε
Λῆμνον ἐς ἡγαθέην, ἑκατόμβοιον δέ τοι ἤλφον¹¹¹.

It is notable that the island of Lemnos is the place where the profit is made¹¹². The question remains, however, as to whether the means of payment indeed consisted of oxen or of a mixture of goods equivalent to the value of the boy.

In regard to the words used for selling, in Greek there are verbs connected with the root **per* as *peráō* (cf. above), *prénēmi* (πέρνημι) and *pipráskō* (πιπράσκω) and, according to Benveniste, this group of words:

évoque non l'idée d'une opération commerciale, mais le fait de transférer...ainsi *epérasa*, avec un nom de personne comme objet, signifie

¹⁰⁷ Liddel-Scott Lexicon, s.v. ἀλφή: produce, gain (παραγωγή, κτήσις, κέρδος).

¹⁰⁸ Liddel-Scott Lexicon, s.v. ἀλφάνω: bring in, yield.

¹⁰⁹ Benveniste 1969, 130-132, where the relevant passages from Homer.

¹¹⁰ Him would I bring on board, and he would fetch you a vast price, wherever you might take him for sale among men of strange speech." (*Od.* 15, 453, The Loeb Classical Library).

¹¹¹ On the day when you took me captive in the well-ordered orchard, and led me far from father and from friends, and sold me into sacred Lemnos, and I fetched you the price of one hundred oxen" (*Il.* 21, 77-79, The Loeb Classical Library).

¹¹² For the importance of the island of Lemnos for the sea-trade activities, cf. the volume by Doumas and La Rosa 1997 (in particular the papers by Boulotis 1997, Papageorgiou 1997 and Sotirakopoulou 1997).

‘transférer’ ou, comme nous disons ‘exporter’ (cf. *Iliade* 24, 752 où la liaison entre *pérnēmi* et *péran*, est visible)¹¹³.

In the following passage from Homer, Hecuba is mourning for the future of her children in the hands of Achilles:

Ἄλλους μὲν γὰρ παῖδας ἐμὸν πόδας ὠκὺς Ἀχιλλεύς
πέρνασχε, ὃν τιν’ ἔλεσκε, πέρην ἄλλος ἀτρυγέτοιο,
ἐς Σάμον ἔς τ’ Ἴμβρον καὶ Λῆμον ἀμιχθαλόεσσιν¹¹⁴.

In Homer, commerce is called *prexis*, to distinguish it from the act of acquiring goods by piracy (*Od.* 3, 70–74) and it is carried out by the *prekteres* (*Od.* 8, 161–164) in distinction to the *lēistēres* (pirates)¹¹⁵:

ὃς θ’ ἄμα νηὶ πολυκλήιδι θαμίζων,
ἀρχὸς ναυτῶν οἳ τε πρηκτῆρες ἔασιν,
φόρτου τε μνήμων καὶ ἐπίσκοπος ἦσιν ὁδαίων
κερδέων θ’ ἀρπαλέων¹¹⁶.

In regard to the words used for buying, Benveniste remarks:

Pour la notion d’‘acheter’, on trouve les deux verbes ensemble, *priámenos* *ōneîsthai* (*πριάμενος ὠνεῖσθαι*) ‘acheter et payer le prix’. On a également deux termes pour vendre, *pōleîn* ‘mettre à prix, chercher un gain’ et *pipráskō* ou *pérnēmi* ‘vendre en transférant l’objet (au marché)’, généralement au-delà des mers¹¹⁷.

Most interesting for our discussion here is Benveniste’s conclusion:

Si l’on regarde les emplois de *ōnéomai* ‘acheter’ chez Homère, on voit que tous les exemples s’appliquent à *des personnes*: on achète des esclaves, des prisonniers qui deviennent des esclaves, qui sont offerts comme tels... Entre les mains de celui qui l’a capturé ou du marchand, le captif n’a pas encore la condition de serviteur, d’esclave, pourvue tout de même de certaines garanties; il l’obtient quand il est acheté... Symétriquement *peráō*, *pipráskō*, etc., ‘vendre’, proprement ‘transférer’, s’applique aux prisonniers, aux captifs¹¹⁸.

¹¹³ Benveniste 1969, 133.

¹¹⁴ For other sons of mine whomever he took would swift-footed Achilles sell beyond the un-resting sea, to Samos and Imbros and Lemnos, shrouded in smoke" (*Il.* 24: 751–753, The Loeb Classical Library).

¹¹⁵ Descat 2006, 27; cf. also one of the least possible meanings for the Mycenaean word *pa-ra-ke-te-u* (as *πρηκτίρ*=merchant) in Aura Jorro Dictionary.

¹¹⁶ One who, faring to and fro with his benched ship, is a captain of sailors who are merchantmen, one who is mindful of his freight, and has charge of a home-borne cargo."

¹¹⁷ Benveniste 1969, 134; see also Descat 2006, 24: *priasthai ktēassi* = acheter avec des biens; *ibid.*, 25: *ōnos* = l’opération qui termine la discussion de l’échange, c’est-à-dire le fait de donner un prix ou de rapporter un prix (*Od.* 15, 445).

¹¹⁸ Benveniste 1969, 137.

A particular type of merchandise: humans transported across the sea

From the Homeric texts quoted above we will retain two points for further discussion, namely (1) the selling of prisoners as slaves, by exporting them to 'markets' across the sea, and (2) the fact that these 'markets' for slaves are located on islands such as Lemnos, Samos, Imbros, that is islands along the coast of Asia Minor, suggesting that one possible place of origin for this human labour force is Anatolia.

We are reminded of a piece of possibly relevant evidence from Bronze Age Greece, that is, the period before Homer. In the lists of dependent personnel from Mycenaean Linear B archives, we find groups of women denoted by 'ethnic' designations which may be associated with islands in the north Aegean (Lemnos¹¹⁹ and Chios¹²⁰) and places in Asia Minor (Miletos¹²¹, Knidos¹²² and Halikarnassos¹²³). In Chadwick's view, "these places were Mycenaean trading posts, through which the luxuries produced in Greece were traded for Anatolian products such as slaves"¹²⁴. So it seems that at these sites on the east coast of the Aegean and on the nearby islands, Chios included, there were ἐμπόρια (*empória*). The first use of the term *empória* is attested in Herodotus¹²⁵. In Linear B texts, the merchandise transported consists of human labour, mainly specialized in weaving¹²⁶.

Furthermore, the verb *príasthai* is used in the Linear B texts, at least on present evidence, only in connection with the acquisition of slaves, as two surviving texts confirm, both referring to a *do-e-ro* (δοῦλος) whom one person has bought from another¹²⁷. In these "textes juridiques"¹²⁸ the price is not named, in my view because the palace is merely witnessing the act of transfer of a person, or his labour time, between two individuals and so what is given in exchange is not recorded¹²⁹. For this reason *príasthai* is used here without the Mycenaean word *o-no*, the latter term possibly meaning benefit

¹¹⁹ *ra-mi-ni-ja* : PY Ab 186. There is also the man's name *ra-mi-ni-jo*.

¹²⁰ *ki-si-wi-ja* : PY Aa 770; [Ab 194]; Ad 675.

¹²¹ *mi-ra-ti-ja* : PY Aa 798;1180; Ab 382; 573; Ad 380;689.

¹²² *ki-ni-di-ja* : PY Aa 792; Ab 189; [An 292]; Ad 683.

¹²³ *za-pu₂-ra₂* : PY Aa 61; Ad 664.

¹²⁴ Chadwick 1976, 80–81.

¹²⁵ Casevitz 1993, 15 with the references to Herodotus passages.

¹²⁶ On this subject, see also Michailidou and Voutsas 2005; Michailidou 2005, 33–45.

¹²⁷ Olivier 1987; Michailidou and Voutsas 2005; Sacconi 2005.

¹²⁸ Olivier 1987, 479.

¹²⁹ Michailidou 2005, 44–45.

in Linear B¹³⁰. Still, if we follow Homer, the presence of the verb used in these two tablets may indicate that it was also the act of payment that was witnessed by the palace, since in Homer, the adjective ἀπρίατη (*apriatē*) signifies a woman for whom no payment was given¹³¹.

Humans bought with silver: ἀργυρώνητοι (argyrōnetoi)

There are circumstances in which silver, in addition to being an index of value, regularly functioned as a means of payment, in particular via the intermediary role of merchants, and we now consider these circumstances. It seems that the main merchandise both evaluated in and exchanged for silver was human labour, generally understood by scholars as "slaves"¹³². The Akkadian text RS 17.238, letter from the Hittite King Hattušiliš III (13th c. BC) to Niqmepa, king of Ugarit, refers to a special category defined as "people who are delivered for silver"; we know that in Ugarit, the average price is 30 shekels of silver per slave¹³³. If we search for a price of slaves in copper, we find that in a text from Nuzi a woman given by the palace as capital to the merchant of the caravan is valued at 5 talents of copper¹³⁴; if this capital was given in metal, it would have been at least two ass-loads, plus the expenses for the animals, therefore a preference for the payment in silver, rather than in copper, or worse still in oxen, is understandable for practical reasons, if for no other¹³⁵.

If we move to post-Homeric times, we find a very interesting passage from Athenaios, *Deipnosophistai*, cited and commented by Descat¹³⁶:

¹³⁰ Killen 1995, 219; Sacconi 2005; in Olivier 1996–97, 290 we read: "o-no puede ser puesto en relación con ὀνίνημι, con el sentido de 'beneficio' (y casi seguramente no con ὄνος 'venta' ni con ὄνος 'asno')"; also Olivier ibid 276, note 7: ὄνος = precio pagado, venta, ὄνον = ventaja, beneficio < de ὀνίνημι.

¹³¹ According to Descat 2006, 23 and 24, ὀνεισθαι "veut dire acheter", while "priasthai designe le paiement" and ὀνος "c'est l'opération qui termine la discussion de l'échange, c'est-à-dire le fait de donner un prix".

¹³² For the various terms used for serfdom, slavery etc, see e.g. Gelb 1979; Michailidou 2005, 33–45 (*passim*).

¹³³ The categories of people from Ugarit mentioned in this letter are: Sons of Ugarit, Servants of the King, Servants of the servants of the King, People who are delivered for silver: cf. Heltzer 1976, 4–5; Heltzer 1987, 247; Michailidou 2005, 42–44.

¹³⁴ Michailidou 2005, 42 from Zaccagnini 1984, 148; the price of a man is 30 shekels of silver, of a woman or a bride is 40 shekels of silver in comparison to 10 shekels of silver for an ox (Zaccagnini 1988, 49).

¹³⁵ It must be noted, however, that in intra-region sales of slaves, any commodity might also be given in exchange by ordinary people, cf. Michailidou 2005, 39–41.

¹³⁶ Descat 2006, 21 ff. (in French translation that I quote).

Les premiers Grecs à utiliser des esclaves achetés avec de l'argent (*argyrōnetois doulois*) furent les Chiotes comme le dit Théopompe au dix-septième livre de ses *Histoires*. Les Chiotes furent les premiers Grecs après les Thessaliens et les Lacédémoniens à utiliser des esclaves, mais ils n'en firent pas l'acquisition de la même manière que ces derniers. En effet, Lacédémoniens et Thessaliens ont, comme on le verra, constitué leur catégorie servile à partir de Grecs qui habitaient avant eux le pays qu'ils occupent maintenant... Quant aux Chiotes, ce sont des barbares dont ils ont fait leurs esclaves, et ils l'ont fait en payant pour cela un prix.

That there was an excess of slaves in Chios, is mentioned by Thucydides (8.40). However, what is of interest to us here is the statement by Descat that "l'abondance des esclaves à Chios n'est donc pas le fait du guerrier, mais du marchand"¹³⁷ and the specific reference to *argyrōnetos*, bought with silver, (in contrast e.g. to *alōnetos*, for slaves bought with salt in Thrace, or *chrysōnetos*, bought with gold in Crete)¹³⁸. In the Greek word *argyrōnetos* the action of *ōneisthai* relates directly to payment and so no difference exists here between the transaction and the payment and "la valeur et le prix ne forment plus qu'une seule action"¹³⁹. This ability to use silver as a means of payment is considered by Descat as a great transformation, a step forward from the function of silver merely as a "valeur dormante" and is further defined by him as an oriental and barbarian tradition¹⁴⁰.

The slaves located on Chios were bought in Asia Minor where the Chians had a greater presence than that of other Greeks, most probably because they had been granted by the authorities of Phrygia and Lydia the rights to commerce in this area¹⁴¹. That the islands near the coast were *emporía*, that is, places of commerce, is also evidenced by the importance that both Chians and Phoenicians accorded the small island of Oinoussa (*Hdt.* 1.165) in regard to the commerce with Lydia. Furthermore, Descat points out that the first named slave merchant was a certain Panionios from Chios, who bought slaves in Caria in order to re-sell them in Ephesos or in Sardes, at the end of the sixth century BC (*Hdt.* 8.104)¹⁴². In roughly the same geographical area, a certain Piyamaradu, according to Bronze Age texts, made raids on Lesbos, in order to kidnap craftsmen and transport them to Miletos¹⁴³; we are thus reminded of

¹³⁷ Descat 2006, 23.

¹³⁸ Descat 2006, 23.

¹³⁹ Descat 2006, 30.

¹⁴⁰ Descat 2006, 31. Barbarian perhaps in the sense of "speaker of an incomprehensible language".

¹⁴¹ Descat 2006, 31.

¹⁴² Descat 2006, 32.

¹⁴³ Niemeier 1999, 143-144.

the Homeric terms of *prekteres* ('traders') versus *lēistēres* ('pirates') whose activities overlap in temporal terms¹⁴⁴.

Is *argyrōnetos* a mere regional usage restricted to Asia Minor and the eastern Aegean, like *alōnetos*, used in Thrace, or *chrysōnetos* in Crete? Descat remarks:

Come on le voit dans le cas de Chiotès, l'utilisation de l'argent s'est faite d'abord avec des étrangers d'Asie Mineure, donc qui n'étaient pas au départ des partenaires sociaux traditionnels. Dans ce cas la pratique dominante est celle du paiement immédiat¹⁴⁵.

Descat also comments that since merchants trading in slaves and horses did not enjoy exemption from tax in the city of Cyzicus of the mid-sixth century BC, this means that, in contrast to Finley's view, merchandise consisting of slaves is to be regarded as a luxury item¹⁴⁶. If slaves are to be regarded as luxury goods here, then, to return to our period, that is, mainly the second millennium BC, it seems, in Postgate's view, that such luxury goods were transported together with semi-staples, such as metals, textiles and wood. In his words, this trade:

was not some generalized whole, with an even lattice of similar ventures going in all directions, but was composed of a number, perhaps quite a small number, of precisely targeted ventures. They each followed well-tried routes, and had a well-defined range of commodities, but probably with one or two primary products and the others opportunistically attached. Just as in the north only Assur took the tin and textiles to Anatolia, at the south end Ur and earlier Lagaš specialized in the Dilmun copper trade, and the merchants operating this route were explicitly described as 'those who go to Dilmun'¹⁴⁷.

So we are back again at the definition of traders but this time posed in relation to Postgate's question, as to whether the use of silver as a medium of exchange did indeed bring about a significant difference¹⁴⁸. He emphasizes that silver mined in Anatolia and used as a medium of exchange there, too, was brought to Assur in the profit made by Old Assyrian merchants. There is also an interesting hypothesis by Weingarten, who thinks that the main sources of Early Helladic silver were in fact closer to the west coast of Asia Minor than were the mines of the Taurus Mountains: she suggests that an im-

¹⁴⁴ Cf. the reference by Descat (2006, 32) to a certain Dionysos "qui vend à Chios, comme esclave, une personne qu'il avait reçu dans le Pont de pirates".

¹⁴⁵ Descat 2006, 32.

¹⁴⁶ Descat 2006, 33.

¹⁴⁷ Postgate 2003, 10; Bahrein in the Persian Gulf is regarded as the site of ancient Dilmun.

¹⁴⁸ Postgate 2003, 5.

portant trade route was opened between Western Anatolia and Lerna (in Mainland Greece) sometime in the Lerna IIIC period and that the motive for this was the exploitation of metals of the Cycladic island of Siphnos¹⁴⁹. If silver from Siphnos and, in the Late Bronze Age, from Laurion in Attica, was in circulation among the eastern Aegean islands, it could also have been used as capital for merchants to obtain specialized labourers, in particular the *Asiatics* (?) recorded in Linear B texts¹⁵⁰. Silver would be the most convenient medium for physically compressing value and for carrying over long distances. It was also the most convenient for making accurate payment dependent on any regular "price". Such payment could be checked by the objective functioning of the set of scales by both partners involved in the exchange, even when neither could communicate verbally, since they were "speaking a strange language" (*ἀλλόθροοι ἄνθρωποι* in Homer¹⁵¹).

Furthermore, there is plenty of evidence in Near Eastern texts to the effect that merchants possessed silver. According to Hallo, the earliest lexically attested term for merchant in the Near East is associated with itinerant metal-workers; very early in prehistory, however, the trader's function passed "from the itinerant tinker to the emerging professional, wedded to his money-bag", since "the merchant seems to be identified in the popular imagination, and in popular etymology, with money"¹⁵². Even from the Ur III period, in the archive of a private merchant we have records of amounts of silver defined as e.g. "silver, trading stock for lambs, for reed, for bitumen, for a donkey, or for leek seed", although this does not mean that silver ever completely replaced the use of staples for barter¹⁵³. Hallo remarks that the association of the merchant with silver is almost a cliché in Sumerian proverbs; for this reason, perhaps, he is placed under the special supervision of deities charged with administering justice. The god Šamaš, for instance, is the protector and critical observer of the entrepreneur (the *ummānu*), the travelling merchant (the *tamkāru*) and his apprentice (the *šamallû*), the latter often being the carrier of the purse; thus the trade of the merchant is here divided among three persons involved in trade activities. On the other hand, in Ebla texts the merchant's two main functions, communication and trade, are combined in one logogram,

¹⁴⁹ Weingarten 2000, 116; for the idea of an "Anatolian Trade Network" during the Early Bronze Age (but excluding Lerna) cf. Şahoğlu 2005, 354.

¹⁵⁰ For the definition of labourers as *Asiatics* in Mycenaean and Egyptian texts, cf. Michailidou and Voutsas 2005.

¹⁵¹ See the Homeric passages above, notes 95 and 110.

¹⁵² Hallo 1992, 351–352: *tibira* = the metal worker while *dam-gār* (the merchant) has the pictogram for *gār* representing a pouch pulled shut by a drawstring around its neck.

¹⁵³ Postgate 2003, 17–18.

which is translated both as merchant and as messenger¹⁵⁴. Moreover, Hallo suggests that the functions of travelling merchant and of emissary or messenger converged; he emphasizes that in the epics, just as in the poem on the Lord of Arrata, "the real hero (or 'anti-hero') is the messenger even when the ostensible subject is trade"¹⁵⁵.

We are always seeking for this "anti-hero", who is often labelled, among others, Assyrian¹⁵⁶, Anatolian¹⁵⁷, Cycladic islander¹⁵⁸, Cretan¹⁵⁹, Mycenaean or Aegean¹⁶⁰, Syrian¹⁶¹, Cypriot¹⁶², etc. We should better leave aside any references to 'ethnicity' and confine ourselves to the geographical regions whence traders might start their mission¹⁶³. Starting with the "elite metalworkers-traders" from Lemnos, Lesbos, Chios and Samos, suggested by Kouka¹⁶⁴, and continuing on to persons specialized in transit transportation¹⁶⁵, we came upon *the trader in his capacity as a handler of silver, who transfers for profit, that is, exports, human labour across the sea*. This merchandise is perhaps initially transported tacked on to the cargo of metals¹⁶⁶ but gradually develops into a specific target for precisely oriented ventures. In various cultures, we notice a preference for regarding the source of this particular merchandise to be beyond their cultural borders. However, in addition to piracy or war, there were other ways of obtaining human capital, as, for example, when Ugaritian

¹⁵⁴ Hallo 1992, 354; Cf. the 'messengers' in the Amarna correspondence and perhaps also the word *a-ke-ro* in Mycenaean texts, pages 33-34 above.

¹⁵⁵ Hallo 1992, 354-356.

¹⁵⁶ The Old-Assyrian traders (deriving from Assur) are mostly attested as acting in Middle Bronze Age Cappadocia.

¹⁵⁷ Anatolian merchants are suggested by Şahoğlu 2005.

¹⁵⁸ Seafaring merchants from the Cyclades and other islanders are suggested mainly by Dourmas (1982).

¹⁵⁹ In accordance with the view on Minoan Thalassocracy, first mentioned by Thucydides; Marinatos and Hägg 1984; Wiener 1990; Wiener 1999.

¹⁶⁰ Mycenaeans are taken as the successors of Minoans in sea power; e.g. Pilali-Papasteriou 1998; For Aegeans, Bachuber 2006; cf. Michailidou (in press) on the definition of the role of the two Mycenaean passengers on board the Uluburun ship.

¹⁶¹ The views by Bass (1991; 1997) or by Pulak (more recently 2005).

¹⁶² As, e.g. the view by Kassianidou 2004.

¹⁶³ Although, in contrast to our habit, the opposite, that is their destination, may define them in the ancient sources (cf. "the people going to Dilmun", note 147).

¹⁶⁴ Kouka 2002, 192, 198, 238-47, 275, 297-99 (as cited by Şahoğlu 2005, 344 note 3); compare with the itinerant tinker *tibira* in the above note 152 and cf. indicatively Bloedow 1997, 441 ff., in particular 447, for itinerant craftsmen in the Aegean, from the Neolithic throughout the Bronze Age.

¹⁶⁵ Whether they were caravan leaders, captains and/or owners of ships, envoys as passengers, etc. all of them here regarded as acting during all periods.

¹⁶⁶ Cf. Postgate, page 41 above and also Doğan, the paragraph on obsidian in Part 1 above.

debtors are placed by the king in the hands of the Hittite merchants from the port of Ura or when texts from the wider Near Eastern era indicate cases of self-sale¹⁶⁷ or of following, willingly or otherwise, the nomads, the pirates of the desert¹⁶⁸. Raiding is not a species of commerce, in that it does not fulfil the criteria of reciprocity and peaceful conditions set forth by Doğan in the first part of our joint paper. After Doğan's discussion of Neolithic trade, my treatment of Bronze Age trade commences with Postgate's comment to the effect that foreign ventures by the second millennium BC are specialized in terms of targets and routes followed. However, the key concept distinguishing trade in the Bronze Age is "exchange-value", which is generated through the circulation of metals. We have seen that in Homer, the verb used in regard to value, *alphánō*, refers only to the sale of humans, which brings an immense profit to the seller¹⁶⁹. This must be the echo of the real motive that turned the Bronze Age raider into a professional merchant.

The islands of the eastern Aegean, located along a reachable *peraia* on the west coast of the mainland beyond, always played a significant role as *emporía*, that is, places for *émporoi* to conduct their business¹⁷⁰. Those across the water were often of another language and culture. However, as we read in Thucydides, trade made people unafraid of each other¹⁷¹. What brought people of "strange language"¹⁷² into peaceful contact with each other was trade. What drove the exploitation of maritime and land routes was trade. The land (and river) routes coming from Syria and Mesopotamia to Central Anatolia and thence to western Asia Minor were used by caravans, led by merchants. Merchandise was borne to and from the points where the sea routes from the

¹⁶⁷ There are also cases of children being sold by their parents, e.g. in a sale document of Ur-III period a priest is buying a girl from her mother, while the merchant also recorded is the person who "weighs out the silver" (Michailidou 2005, 41, fig. 4); such cases were not at all uncommon in antiquity, even in Athens: "C' est ainsi qu' à Athènes par exemple, Plutarque rapporte formellement que jusqu' à la législation de Solon, les Athéniens, lorsqu'ils se trouvaient en difficulté financière, vendaient leurs enfants comme esclaves" (Gofas and Hatzopoulos 1999, 9 and note 46).

¹⁶⁸ Michailidou 2005, 41–43.

¹⁶⁹ Homeric passages above, notes 109–110.

¹⁷⁰ By confining ourselves to this definition we avoid going into further detail on their particular character, which is beyond the scope of the present discussion. For example, we may start with Niemeier 2005, in regard to Minoans and Mycenaeans in Western Asia Minor and follow his references to others. Both volumes on *Emporia* (Laffineur and Greco 2005) and the volume on *Sea Routes in the Mediterranean* (Stampolidis and Karageorghis 2003) contain valuable information. See also Zurbach 2006.

¹⁷¹ See above page 32.

¹⁷² As in the Homeric passages cited in this paper (pages 33 and 36).

Aegean terminate¹⁷³. Doğan has noted¹⁷⁴ that the distribution of archaeological material is independent of cultural borders. There were no borders for traders, as trade brought accumulation of material wealth and knowledge. Various script systems, "foreign" languages (initially the names of exotic items) and expertise in technologies were introduced by traders, bringing with them new ideas¹⁷⁵. As Wedde has so neatly put it, concepts travelled as ballast embodied in the traded items, or "in the minds of envoys, merchants, and craftsmen – as an intellectual stowaway"¹⁷⁶.

¹⁷³ For the Aegean routes and the stepping stones offered by the islands, such as e.g. Skyros, cf. Parlama 2007, 45, Kouka 2002, 295–302, Agouridis 1997, Sotirakopoulou 1997.

¹⁷⁴ On page 23 above.

¹⁷⁵ For more on the cognitive and ideological equipment of the merchants: Michailidou 2000, 205–209; Michailidou 2000–2001; Michailidou 2004, 320.

¹⁷⁶ Wedde 1997, 75.

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*Exchange of prestige technologies
as evidence of cultural interactions
and integration between the Aegean
and the Near East in the Bronze Age**

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IT IS IN THE NATURE OF MAN to appreciate "prestige items", meaning beautiful, rare, exotic and precious objects. Prestige items travelled widely and in this way people became conversant with new materials, new designs and new techniques. Since the inception of Archaeology as a discipline, exchange of precious materials and prestige items has been used as the best proof of contacts among peoples of the ancient world¹.

In this paper, a new parameter will be discussed as proof of contacts between the Aegean, Egypt and the Near East – the transmission of a prestige technology: the technical innovations and technological developments of faience through time. Faience is one of the three man-made substances composed of quartz, alkalis and metal oxides (known in the literature as *faience*, *Egyptian blue* and glass) (see Appendix). Faience is brightly coloured and has a smooth, shiny surface that recalls semiprecious stones, such as turquoise and lapis lazuli. It may have been made originally to imitate precious stones (such as lapis lazuli), which were not easily accessible but were highly appreciated by the whole ancient world not only because of their beauty, colour and gloss, but even more so for their medicinal and magical qualities. They were considered capable of curing ailments and of warding off the evil spirits that ancient people believed were all around them. They were thus absolutely necessary objects to all and if difficult to obtain, because access was restricted to certain lands only or to the affluent members of society, craftsmen were urged somehow to produce substitutes that could at least in theory be available to all.

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¹ Stevenson Smith 1965; Zaccagnini 1983; Moorey 2001.

Faience production in the Near East and in Egypt: possible routes the technology followed

Although Egypt has taken the lion's share as a faience producer because of the large numbers of artefacts recovered and their perfect preservation (due to the favourable conditions of their burial), it may have been in Mesopotamia that the technique first developed². Faience beads appeared in western Asia during the long Ubaid period (5400–4300 BC)³ but it was in the fourth millennium BC that faience production became firmly established in Mesopotamia, as is evident in burials at Gawra and the earlier structures full of beads below the platform on which the "Eye Temple" was set at Tell Brak⁴. It is thus possible that faience was first produced in western Asia (in Northern Mesopotamia or in Iran) and that the technology was transmitted subsequently to Egypt and the Indus region⁵. Beads of faience appeared in Egypt during the Amratian period (Naqada I; Middle Pre-dynastic, c. 4000–3500 BC.), but beads of glazed steatite were in use in the last quarter of the fifth millennium BC (Badarian period, Early Predynastic)⁶. The heating and glazing of steatite⁷ is associated with both western Asia and Egypt, and faience production may have sprung from such practices. Beck considered the technique of glazing steatite as "almost entirely Egyptian"⁸, perhaps because of the large numbers of glazed steatite beads recovered in Egypt, but if so, why did faience production develop in Mesopotamia first and not in Egypt? To glaze steatite beads, it is necessary to cover them with malachite (a mineral used as a pigment in pre-historic times) and then heat them; the resultant glaze is of a greenish-blue colour. However, glazed quartz⁹ is of a more brilliant blue colour that is closer to semiprecious stones and this factor may have prompted craftsmen engaged

² On the microstructure of faience, see Kaczmarczyk and Hedges 1983; Tite and Bimson 1986.

³ Moorey 1999, 169.

⁴ Mallowan 1947, 33; Moorey 1999, 172.

⁵ Stone and Thomas 1956; Moorey 1999, 169.

⁶ Moorey 1999, 168.

⁷ Beck 1934, 69; For further information on the technology of glazing steatite, see Lucas and Harris 1962, 172; Vandiver 1983 A-64 ff.; Tite and Bimson 1989; Moorey 1999, 169. The technique probably sprang from accidental glazing of stones that had been heated together with malachite – used as cosmetic from an early period and ground on stone palettes (that would have provided the silica). It could have also been learnt through observations of, for instance, the pebbles in Wadi Natrun in Egypt becoming glossy when in contact with the natron of the dry lake and the hot sun: Busz and Gercke 1999.

⁸ Beck 1934, 69.

⁹ This is evident in our experimental work (with the ceramicist and sculptor Ch. Sklavenitis, see Panagiotaki et al. 2006).

in fire-based technologies to opt for quartz (a much harder stone) in faience production, instead of steatite, a softer stone that was certainly easier to carve and grind.

Stone-glazing and faience production went side-by-side for some time, and it was after the third millennium BC that faience replaced glazed stones, at least in Mesopotamian workshops¹⁰, while in Egypt scarabs of glazed steatite continued to be produced even during the Middle Kingdom¹¹.

Although faience was first used in Mesopotamia exclusively for making beads, it seems that towards the end of the third millennium BC small vessels and certain luxury items were made from this material¹². With the introduction of moulds, perhaps in the third millennium BC, craftsmen realized the potential of faience for fashioning larger objects and also the fact that they were no longer bound to use lithic-based technology¹³. Good examples are the bowls with lids, and the buttons and pendants from Tell Taya¹⁴. During this same period, faience in various colours (brown, purple, black, white, yellow and red) appeared at Tell Brak¹⁵, while colourful faience, instead of the standard blue-green of the earlier periods¹⁶, was also produced at Nineveh (Akkadian period = 2350–2100)¹⁷. Towards the end of the third millennium BC, animal statuettes appeared at Susa and, more significantly, traces of a mosaic consisting of faience tesserae at Nippur: "an ochre red border and tiny squares formed a pattern with pale blue squares and crescents"¹⁸. In the first half of the third millennium BC, faience beads appeared in regions of the Persian Gulf, down to modern Oman, while later, during the third quarter of the third millennium BC, faience production seems to have flourished in the Indus Valley¹⁹.

In Egypt, until the Early Dynastic Period, faience production was limited to beads and amulets of various shapes, while during the Early Dynastic Period (2920–2649 BC) slightly larger objects and the first small figurines were

¹⁰ Moorey 1999, 171.

¹¹ Nicholson 1998, 59.

¹² Moorey 1999, 173.

¹³ A text of the late third millennium BC from Ur (Legrain 1937, no 1498; Moorey 1999, 174), that describes the activities of craftsmen, provides some evidence that the lapidaries may have been involved in the production of artificial materials such as faience.

¹⁴ Reade 1987, 33; Panagiotaki 1999a.

¹⁵ Oates and Oates 1991, 137; Oates et al. 1997; Moorey 1999, 174.

¹⁶ Moorey 1999, 174.

¹⁷ Absolute dates are taken from Moorey 1999 for the Near East, and Friedman (ed.) 1998 for Egypt.

¹⁸ Moorey 1999, 174.

¹⁹ Moorey 1999, 174.

made²⁰. During the Old Kingdom (2649–2134 BC) the best-known faience items are the 36,000 tiles that were used to cover and decorate parts of the Stepped Pyramid complex of King Djoser at Saqqara²¹, as well as small inlays of fine workmanship²². More tiles have been recovered in recent years from the Fifth Dynasty pyramid temple of Raneferef, some of which are embellished with gold leaf²³.

During the second millennium BC, faience production continued in Meso-potamia, mainly of personal ornaments, inlays and a limited number of vessels. Faience mosaic inlays were found at Mari in modern Syria, perhaps associated with wooden furniture²⁴, suggesting that the technique of creating mosaic compositions may have travelled from Mesopotamia to Syria. The technique of faience-making may have been introduced to Syria quite early, although four faience vessels from level VII at Atchana "represent an important fixed point in the development of the industry in Syria"²⁵. Objects from Ebla of the Middle Bronze Age (17th century BC) included human and animal figurines, miniature vessels and a vase in the shape of a female head²⁶.

In the Middle Kingdom and the Second Intermediate period in Egypt, faience objects in various forms were produced in abundance; the hippopotamus figures were perhaps the most popular items, usually decorated with aquatic plants applied in linear form (a manganese-based paint) before firing²⁷. Many vases were made during the Middle Kingdom, which may have thick walls but were nonetheless beautifully decorated with flowers and various scenes²⁸, using black paint under the glaze. Closed vases, similar in shape to clay ones, were also produced; they were decorated using paint (creating various designs) or relief work. In the first quarter of the second millennium BC, faience manufacture was introduced into Palestine from Egypt²⁹. During the Middle Bronze Age, faience continued to be a luxury craft in Syria and in Palestine, and although in both regions the influence of Egypt in style and in manufacturing methods is evident, there are also items that point to local Syrian workshops. In Mesopotamia, however, there is a gap between the faience of the end of the third millennium (Tell Taya, for instance) and that of the

²⁰ Nicholson 1998.

²¹ Lauer 1976.

²² Panagiotaki 1999a.

²³ Nicholson 1998.

²⁴ Moorey 1999, 175.

²⁵ Moorey 1999, 176.

²⁶ Mazzoni 1987; Moorey 1999, 176.

²⁷ Friedman 1998, figs 142–146.

²⁸ Friedman 1998, figs 76–79.

²⁹ Moorey 1999, 176.

second half of the second millennium BC. In the Near East as a whole, there were important changes in the range and intensity of faience production as the Middle Bronze Age gave way to the Late Bronze Age. The earliest faience material from the Late Bronze Age in Mesopotamia comes from level II at Nuzi (beads of the 14th century rather than the 15th)³⁰, and from the temple at Tell Rimah, the material comprising small cylindrical cosmetic containers with lids and zoomorphic amulets. The faience produced in Mesopotamia and Syria between 1550 and 1350 BC is termed "Mittanian", as the Mittani Empire stimulated the production of such materials. Between 1550 and 1200 BC the technology continued and various vessels and more elaborate items were manufactured in the workshops of palaces and temples at Nuzi and Tell Rimah. The Assur Temple and the Ishtar Temple (ranging from about 1240 to 1115 BC), both at Assur, yielded a variety of beads, amulets, rosettes, gaming-pieces, vessels, human and animal statuettes³¹. Thirteen-century BC Tell Rimah produced face-pendants and rosettes, the latter widely distributed: they were found at contemporary levels at Nimrud, at Assur, and other sites in Mesopotamia and Syria³².

In New Kingdom Egypt, faience tiles recalling the earlier ones from the Stepped Pyramid were produced in colour: they show prisoners dressed in the flamboyant Asiatic style³³. Faience Objects of various kinds were used extensively in architecture, mostly colourful tiles and floral inlays but also three-dimensional pieces such as grapes combined with foliage³⁴, or daisies in the round inlaid into tiles. Apart from inlays, decorative tiles, rings, amulets and vases decorated with Nilotic scenes, there is a typical vase of this period, the chalice or the lotus chalice: a bowl with a stem foot, made of two pieces (the bowl and the stem) joined together³⁵.

To the same period, however, belong vessels found at sites in Mesopotamia, Syria and Cyprus, and classified by Peltenburg³⁶ as *Egyptian* or *Egyptianizing* and *Western Asiatic*, subdividing the last into North Levantine Style and *International Western Asiatic Style*. For example, bucket-shaped vessels occur at many sites in Mesopotamia (Babylon, Isin, Kish, Uruk, Ur) as well as in Syria (Mari) and Palestine (Megiddo), and Moorey suggests that these vessels may have been produced in Babylonia and were distributed all the way up

³⁰ Vandiver 1982; Moorey 1999, 177.

³¹ Andrae 1935, 96–100.

³² Moorey 1999, 178.

³³ Friedman 1998, figs 52–4.

³⁴ Friedman 1998, figs 37, 51.

³⁵ Friedman 1998, figs 114–117.

³⁶ Peltenburg 1972; 1974.

the Euphrates³⁷. Of particular interest too are the "blossom bowls" with relief "petals" arranged around the exterior: they are found at Mari as well as in Mesopotamia³⁸. Simpler hemispherical bowls, with linear decoration inside or plain, are widely distributed in Syria and Mesopotamia. Generally, vessels of Peltenburg's *International Western Asiatic Style* have been found in Mesopotamia, Syria, Palestine and Cyprus.

Workshops at Assur, Nuzi and Tell Rima³⁹ supplied local palaces and temples with votive artefacts and personal ornaments, but at the same time they were producing the above-mentioned vessels that were part of a luxury trade or were used in the gift exchange process⁴⁰. However, it is impossible at present to tell where they were made. As Moorey⁴¹ says, workshops in Syria are "most commonly favoured", and he may be right since both Ugarit and Emar have produced industrial debris that is suggestive of local industries. Whether these vessels were made in one workshop or they were the products of workshops in close contact with each other is not known, Peltenburg sees them produced in different workshops.

The earliest faience workshop identified in Egypt was at Abydos and dates to the Old Kingdom and First Intermediate Period⁴². Workshops of later periods, for faience as well as glass production, have been recognized (on the basis of kilns, wasters as well as finished products and clay moulds) at Amarna⁴³, Malkata⁴⁴ and Qantir⁴⁵. In the third millennium BC craftsmen in Mesopotamia may have been working for the "great institutions or for rich and powerful individuals", but in the second millennium BC all archives point to specialized craftsmen as being integrated in the palace or temple, and the same is true of Egypt – the technology has thus become a "prestige technology"⁴⁶.

³⁷ Moorey 1999, 178–9.

³⁸ Caubet and Pierrat-Bonnefois 2005, figs 105–6, 122.

³⁹ Moorey 1999, 179.

⁴⁰ Zaccagnini 1983.

⁴¹ Moorey 1999, 179.

⁴² Nicholson 1998, 56–7.

⁴³ Petrie 1894; Nicholson 1998, 60; Shortland et al. 2001.

⁴⁴ Nicholson 1998, 60.

⁴⁵ Nicholson 1998, 61.

⁴⁶ Moorey 1999, 15.

Technological innovations and developments in faience production through time

The core material of faience in both the Near East and Egypt is usually white, off-white or brown, the last coloured with manganese oxide⁴⁷. The glaze colour⁴⁸ during the first periods of faience production was a blue-green, based on copper oxide. In Mesopotamia, blue, green and black were used by the end of the prehistoric period, brown/red and yellow by the end of the third millennium BC and even more colours during the Kassite and Mitannian periods, dark blue (based on cobalt) included⁴⁹. In Egypt, blue, green and brown appeared in the fourth millennium BC, black, white and purple in the third millennium, and yellow (antimonite), dark blue and violet during the XVIIIth Dynasty⁵⁰.

The Egyptian workshops were capable of producing faience of fine core material, such as the small decorative objects associated with the Stepped Pyramid complex, but the majority of the objects had a darker beige core material created from coarsely-ground sand. Because the gloss and colour of the glaze depended on the core material, and the better the core material the better the glaze, the Egyptians invented a technique that came to be used widely in Egypt: the core of coarsely-ground sand received a fine coat of well-ground, fine quartz, on the upper surface only, what Lucas called Variant A⁵¹. In this way a good-quality glaze was achieved, since the layer intervening between core and glaze in Variant A added to the reflectivity of the glaze, while at the same time saving on labour time. The practice of adding this layer started in the Middle Kingdom and became far more common in later periods⁵². Although faience itself is mainly decorative in character, it is often decorated further. The most usual form of decoration was to apply details in black paint (manganese or iron oxide) using a brush – this method was used in both Egypt and Mesopotamia, usually on the internal surface of bowls. The Egyptian workshops achieved the production of polychrome faience using paint, but also invented a new technique, that of overlaying elements of contrasting colour, and usually of finer paste, on the surface of the object, or inlaying different colours of paste into prepared channels, thus creating a colourful effect

⁴⁷ Kaczmarczyk and Hedges 1983; Vandiver 1983; Moorey 1999, 185.

⁴⁸ On the evolution of glazing technologies, see Kaczmarczyk and Hedges 1983; Vandiver 1983; Paynter et al. 2001.

⁴⁹ Moorey 1999, 184–5; on copper and cobalt colourants in Egypt, see Tite et al. 1998; 2003.

⁵⁰ Moorey 1999, 185.

⁵¹ Lucas 1962; Vandiver 1983, 94.

⁵² Vandiver 1983; Nicholson 1998.

witnessed for the first time in the Raneferef objects⁵³; the technique flourished during the Middle and the New Kingdom. During the Middle Kingdom and the Second Intermediate Period more decorative techniques developed, such as mixing two different and contrasting colours of faience to create a marbled effect. In Mesopotamia, different-coloured glazes were used to create a colourful effect: the glazes rested side-by-side or were applied one on top of the other⁵⁴. During the New Kingdom all the techniques were used intensively in Egypt, but more technological innovations were made, among them the use of the open-face mould, which enabled workshops to produce large numbers of the same item. If one thinks of the thousands of amulets and personal ornaments, then it is easy to realize the importance of the open-face clay mould for the fast mass-production of such items, which henceforth could be available to all. More methods of decoration were also introduced in this period: elements of contrasting colours were applied on flat surfaces to create relief work, while higher relief was achieved by forming objects in the round (for instance daisies) and then attaching them to flat tiles. A new technique of decoration devised during the Amarna period in Egypt (or slightly earlier) involved using paint or light slurry, in blue or red on a white ground, to create slender silhouettes of animals or fish and vegetation, then covering the whole with a rich white glaze; in this type of decoration the colours blend beautifully and the effect is more mysterious (figs 1, 2)⁵⁵.

Faience-making in the Aegean

The Aegean becomes acquainted with faience and probably glazed stone at the end of the third millennium BC⁵⁶. A set of beads recovered in the north of Greece may have been brought from the East or Egypt⁵⁷. Of Egyptian manufacture is the earliest faience item found so far in Crete: an Early Dynastic cup (3000-2700 BC)⁵⁸ recovered from a burial cave in the east of the island⁵⁹ – undoubtedly a prestige offering containing perfumes or unguents. Two "crumb

⁵³ Nicholson 1998, 57.

⁵⁴ Moorey 1999, 185.

⁵⁵ Friedman 1998, figs 25, 33-5.

⁵⁶ It is not clear if the large numbers of steatite beads recovered from tombs in Crete were originally glazed. However, the high concentrations of magnesium at their surfaces, when examined using laser-induced breakdown spectroscopy (Anglos 2001), may suggest that they were glazed. Scarabs made of glazed steatite have been identified by Pini (2000, 112).

⁵⁷ Mirtsou et al. 2001.

⁵⁸ Panagiotaki 2001, fig. 72; Panagiotaki et al. 2004, fig. 8.1.

⁵⁹ Panagiotaki et al. 2004, fig. 8.1.

beads" (together with a number of Egyptian blue beads) that also may have come from Egypt⁶⁰ were found in a tomb in the Mesara.

Whether it was these imported faience and Egyptian-blue objects that were the incentive for Aegean craftsmen to learn the technique of faience-making we will probably never know, just as we do not know how it was transmitted. Nevertheless, we should be able to trace this in the subtle characteristics – technical, compositional and stylistic – shared between Aegean faience and that from the other regions. Together with the afore-mentioned "crumb beads", large numbers of spherical and cylindrical beads of faience were recovered. Their simple geometric shapes were common in both the Near East and Egypt in this early period, and therefore the shape cannot be used to identify their country of origin. However, their fine white or dark brown core material and the blue-green glaze look identical to faience of later date found in Crete and considered to be of Minoan manufacture⁶¹. These may have been the first Aegean products and, if so, their existence suggests that the technology of making vitreous materials was transmitted to the Aegean at the end of the third or at the beginning of the second millennium BC. We cannot at present tell which route the technology of faience-making followed; it could have come from either Egypt or the Near East, but since the earliest faience object found in Crete is of Egyptian make, it is possible that the technology came originally from Egypt.

In the nineteenth century BC, the First Palaces were built in Minoan Crete, and it seems that right from the start they embraced crafts: the Vat Room Deposit at Knossos (MM IB), for instance, comprised faience beads and decorative inlays made of faience, sea shell and ostrich egg, which must have formed medallions used to decorate an at once delicate and luxurious piece of furniture or box⁶², recalling the mosaic inlays mentioned above from Nippur and Mari. The later (1700/1650–1640/1630 BC) "Town Mosaic", also from the palace of Knossos, consists of a large number of small tiles that recall the tiles from the Stepped Pyramid in Egypt but which depict a whole town with large multi-storeyed mansions, trees, people and animals, all in colour (fig. 3)⁶³. The vibrant scene is created by two methods typical in Egypt (as mentioned above) and almost entirely absent from the Near East: inlaying and overlaying; the colours used are brown, grey, black and red. The "Town Mosaic" may have

⁶⁰ Alexiou 1961–2; Alexiou and Warren 2004; Panagiotaki 2008; on "crumb beads", see Beck 1928.

⁶¹ Foster 1979; Panagiotaki 1995; 1999a, b; 2008; Tite et al. 2005.

⁶² Evans 1921, fig. 120; Panagiotaki 1999b; 2008.

⁶³ On analytical work on the Town Mosaic, see Panagiotaki et al. 2004; on the colours used in Minoan faience: Foster 1987a; Tite et al. 2005.

decorated a piece of furniture or have been mounted on a wooden panel to decorate a wall⁶⁴. The techniques of both overlaying and inlaying continued into the next period (1600–1500 BC) and are evident in the objects recovered again from the palace of Knossos (the largest concentration of faience in the Aegean was brought to light in the Temple Repositories situated in the central shrine area of the palace): inlays in different forms, vases and anthropomorphic figurines. All the Knossos objects are of very fine core material that recalls faience from Mesopotamia (of early as well as later periods: Tell Taya and Tell Rimah respectively), or Syria⁶⁵, rather than Egypt. However, in a few pieces with coarser core material a white layer of fine quartz (Variant A of Lucas)⁶⁶ was applied – an Egyptian technique, used extensively in Egypt from the Middle Kingdom onwards and very rarely in the Near East (at Middle Bronze Age Ras Shamra⁶⁷ and Tel el Ajul, and Late Bronze Age Tel Abu Hawam and Lachish)⁶⁸. The vases from Knossos were formed in pieces and then joined together⁶⁹. Apart from the vases there are other objects made in the round, such as seashells and argonauts (nautili)⁷⁰. It is, however, in the “snake goddess” figures that the skills of the faience craftsmen are more obvious. They are made in pieces (the hair, hats, snakes and the arms) and then joined; the designs on the dresses were painted on. These figures exhibit a freedom of movement unlike their contemporaries in Egypt or the East. The facial features and expression recalls the Late Bronze Age face goblets found along the Levantine coast and in Cyprus – similarities are more evident with the goblet from Ras Shamra⁷¹.

Different workshops (judging from the large concentrations of faience objects) may have existed at Knossos, Zakros and Phaistos, functioning under the aegis of the palaces⁷². Thus, the faience industry may have been a palace-centred one, as it was in Egypt and the Near East.

During the Late Bronze Age, with the introduction of glass to the Aegean, faience-making dwindled and the centre of production, not so much for faience as for Egyptian blue and glass, moved from Crete to the Greek Mainland⁷³. At the same time, two new kinds of faience appeared: vitreous fa-

⁶⁴ Panagiotaki 1999a; 2008.

⁶⁵ Caubet and Kaczmarczyk 1987.

⁶⁶ Lucas 1962, 161–2; Vandiver 1983, A–95.

⁶⁷ Caubet and Kaczmarczyk 1987, 49.

⁶⁸ Panagiotaki 1999a, 620.

⁶⁹ Panagiotaki 1995; 1999b.

⁷⁰ Evans 1921, fig. 379; Panagiotaki 1999b.

⁷¹ Caubet and Pierrat-Bonnefois 2005, fig. 98.

⁷² Foster 1987b; Panagiotaki 2008.

⁷³ Panagiotaki et al. 2004.

ience and yellow-cored faience, both existing only in bead form; beads of both materials have been found in Egypt and the Near East⁷⁴. The glaze colour also changed in this period from the earlier copper-based glazes in blue-green to cobalt-based dark blue. The dark blue colour was made to imitate lapis lazuli, the most popular stone of the ancient world. This same change from light blue-green to dark blue is obvious in both Egypt and the Near East, suggesting that not only raw materials but also skills and trends were shared among the workshops of Egypt, the Near East and the Aegean, especially during the Late Bronze Age.

Conclusions

Faience beads have been found in Early Bronze Age tombs in Crete, together with a variety of objects, among them Egyptian amulets⁷⁵. This may suggest that Egyptian artefacts came to Crete together with the cultural and religious significance they had in Egypt. The Temple Repositories at the Palace of Knossos contained most of the faience items found in the Aegean: models of flowers, fruit, marine objects, land animals and, most importantly, the “snake goddess” figurines. It is not coincidental that all these were made of faience; I think the material was chosen for its symbolic significance, especially for the “snake goddesses”, which are the central figures around which the entire cosmos of the Temple Repositories revolves. The existence in the Temple Repositories of a faience lotus flower (fig. 4), an important symbol in Egypt, and a plaque depicting a cow (fig. 5), an animal associated in Egypt with the goddess Hathor – *the Mistress of Turquoise and the Mistress of Faience* – may not be without significance either.⁷⁶ Hathor was the goddess of love and fertility, and many faience objects in the Temple Repositories bring out these meanings: fertility and maternal love is evident in the cow plaque where the mother cow looks tenderly at her young; the same idea is evident in the plaque with the ibex and its young, and even more so in the way the elder “snake goddess” figure holds the heads of two snakes in her hands. The snake itself is a fertility symbol and the way the younger figure hurls her snake(s) up may be suggestive of female dominance. The faience “snake goddess” figures (fig. 6) may have been associated with Hathor, or they may have represented the same qualities. They may have been the protectresses of the faience workshop of Knossos, playing the role of Hathor. If so, the Temple Repositories may pro-

⁷⁴ Panagiotaki et al. 2004 ; Panagiotaki 2008; 2008a.

⁷⁵ Xanthoudides 1924 ; Panagiotaki 2000, 182, fig. 175.

⁷⁶ Friedman 1998a, 15.

vide some evidence that the technique of faience-making reached Crete from Egypt, together with the ideology behind it, together with its symbolic meanings. It is significant that the faience "snake goddess" figures were ceremoniously buried together with their *cosmos* of faience and other materials in the Temple Repositories⁷⁷.

With the coming of glass to the Aegean, at the end of the fifteenth century BC, ordinary faience that had supplied the needs of the Minoan elite disappeared completely and vitreous faience took its place. The preferred glaze is now the cobalt-based dark blue, the colour of much-coveted lapis lazuli, favoured also in Egypt and the Near East during the same period.

In Egypt, as Friedman⁷⁸ has argued for Egyptian faience, *tjehnet* (= faience) meant to the Egyptians that which is "brilliant or scintillating, like the light of the sun, moon and stars. As these heavenly bodies shimmered by day or night, so faience was seen to glisten with a light that in Egyptian thought was symbolic of life, rebirth, and immortality". Thus, the blue-green of faience came to mean life and good health, and came to be associated with royalty, deities and the dead; for the dead it meant hope for a new life, and this is why it is found in every tomb, rich or poor, sometime in the form of a single bead. It is significant that Aegean faience was also associated with palaces, shrines and burials.

Although the technique of faience (and glass-making) was invented in the Near East, and was borrowed by Egypt and the Aegean, each region used it to create artefacts that suited their needs and satisfied the aesthetic demands of their elite. Faience was appreciated by the entire ancient world as a substitute for precious stones, as is evident in the vocabulary used in ancient Egyptian and Mesopotamian texts, where such materials are called *artificial stones*⁷⁹. All the beneficial properties of the stones were thus transferred to faience too. With time, faience was appreciated even more because of the magic that was involved in its making: a dull ugly mass of quartz and ash is transformed in the kiln into a radiant work of art. The brilliant and light-reflecting glaze of faience was associated with light as opposed to darkness, with life as opposed to death.

Faience was thus developed in the Near East and Egypt as much as a potential manifestation of a particular elite ideology as of the technology. It is difficult to tell now how much of this ideology might have spread to the Aegean together with the technology, but it is, I think, significant that through-

⁷⁷ Panagiotaki 1999b.

⁷⁸ Friedman 1998a, 15.

⁷⁹ Moorey 1999; Panagiotaki 1997.

out the Aegean faience was associated with burial, shrines and palaces,⁸⁰ exactly as it was in the Near East and Egypt, suggesting that the technique of faience and glass-making came to the Aegean together with the symbolic significance and the ideology it had in its countries of origin. Did this significance die in the Bronze Age or is it still present when many of us are attracted by a shiny blue faience or glass bead, or wear one to ward off the evil eye and bring good luck?

⁸⁰ Panagiotaki 2000.

APPENDIX

Faience consists of silica in the form of powdered quartz or quartz sand, calcium carbonate (lime), an alkali (plant ash or natron) and a metal oxide (the most usual being copper oxide). Faience-making involved grinding quartz pebbles (or quartz sand) and mixing the resulting powder with water, an alkali and copper oxide. The mixture could be turned into objects by working by hand or by pressing into a mould. These objects were subsequently left to dry in the sun and then fired to about 900 °C, to harden. In the process of drying, some of the alkali salts gather to the surface as a white crust; during firing the crust melts and fuses with the quartz, the lime and the copper oxide to form a glassy layer, the glaze (the glossy blue which recalls the sheen of semiprecious stones). Faience thus, when examined in cross-section, consists of two layers: the body layer or core and the outer layer the glaze, which is a form of glass. When faience objects are worn, the glassy outer layer wears away and faience can be mistaken for frit⁸¹. Experiments have shown that different methods may have been used to glaze faience; they are known as *efflorescence* (the method described above, when all the ingredients are mixed together), *cementation* (embedding the finished object in a glazing powder and firing it), and *application* (the glaze materials are applied in liquid form on the surface of the artefact, using a brush, or the object is dipped into the liquid glaze).

Egyptian blue is a mixture of silica (quartz or quartz sand), calcium carbonate and a copper compound together with alkali⁸². The raw materials are put into a clay pan that plays the role of a mould, and are fired in the range of 900–1000 °C, so that the mixture hardens and acquires an intense blue colour. In this way Egyptian blue ingots are produced. To create various objects, the ingots would have to be ground to a fine powder and mixed with water to produce a mixture malleable enough to be worked by hand or pressed into a mould. When examined in cross-section, Egyptian blue is coloured throughout – it does not have a glaze layer. Egyptian blue was also used as a blue paint (as a fine powder). It is easy to distinguish between the ingot material and that used for objects or as pigment, since the ingot material is coarse-grained.

Glass is also made of silica (quartz or quartz sand), calcium carbonate, an alkali and a metal oxide.⁸³ The mixture is placed in a clay pan and heated to a

⁸¹ The word *frit* is often used by some excavators to describe faience objects with worn glaze; however, frit is the first stage in glass production, when the raw materials are heated in low temperature to become "fritted", that is before they melt (Oxford English Dictionary and Moorey 1999, 167).

⁸² Tite et al. 1984.

⁸³ On the manufacture of glass see Oppenheim et al. 1979; Grose 1989; Stern and Schlick-Nolte 1994; Brill 1999; Lilyquist and Brill 1995; Panagiotaki et al. 2004; 2005.

range of 950-1000 °C, until the ingredients fuse together to produce a soft, probably flowing substance, which could be run into a mould or viscous enough to be wound round a core to form objects of various shapes. Deformities – usually the result of pressure when coming out of the mould – could be removed or improved by grinding and polishing. Glass could be left to dry in the clay moulds to produce round glass ingots, like the ones recovered from the Uluburun shipwreck⁸⁴. To produce artefacts, the ingots would have to be re-melted or at least softened enough to be pressed into a mould.

⁸⁴ Bass 1991.



Fig. 1: Vessel fragment with gazelles (Dynasty 18), after Friedman 1998, fig. 25



Fig. 2: Cattle among reeds (Dynasty 18), after Friedman 1998, fig. 33



Fig. 3: The "Town Mosaic" from the palace of Knossos



Fig. 4: A model of a lotus flower from the palace of Knossos

Fig. 5: Animal plaque depicting a cow with its young in low relief, from the palace of Knossos



Fig. 6: The “snake goddess” figures from the palace of Knossos

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Νόμος Ροδίων Ναυτικός
The contribution of the aegean islands
to international maritime affairs

Christos Doulas

THE RHODIAN SEA LAW along with Book 53 of the *Basilica* is considered to constitute the complete Byzantine legislation concerning maritime affairs¹. It has been proposed that the name of Rhodes was given to this law some time between 600 and 800, perhaps to give it weight, since the island had played an important role in maritime trade in Antiquity². Indeed, the role of Rhodes in formulating rules concerning maritime trade was acknowledged in ancient times. The great Athenian orator Demosthenes, for instance, praises the Rhodians for their fair and obliging treatment of merchants with whom they had dealings³. As far as the Romans are concerned, Cicero referred on many occasions to the Rhodian Sea Law⁴, Augustus (27 BC–AD 14) introduced it to the entire Roman Empire and Antoninus Pius (AD 138–161) ordered that every difficult problem of maritime trade should be dealt with according to the old Rhodian Sea Law, "to which none of our own laws is opposed"⁵. In the East Roman Empire (Byzantium), where only one law prevailed, that which "emanated from a single source, the Emperor"⁶, the Rhodian Sea Law was never ignored. In the Digest XIV, 2 (AD 533), of Emperor Justinian (527–565), under the title *On the Rhodian Law of Jettison*, it is specified that, "if goods are thrown overboard in order to lighten the ship, what is sacrificed for the common benefit should be made good by a

¹ Zepos 1978, 743.

² Zepos 1978, 744.

³ Oration 56; Knorrunga 1987, 100.

⁴ "... *Rhodiorum, quorum usque ad nostram memoriam disciplina navalis et gloria remansit*" (... of the Rhodians, whose naval discipline and glory remained for ever in our memory": *Pro lege manilia* xviii; or "... *Nam si Rhodiis turpe non est portorium locare, ne Hermocreonti-quidem turpe est conducere...*" (... For if it is not dishonest for the Rhodians to establish port duty, it is not dishonest for Hermocreon to hire it ...": *De Inventione* I, xxx: 47; or "*Lex est apud Rhodios ut si qua rostrata in portu navis deprebensa sit, publicetur*" (There is a law by the Rhodians according to which if a ram-ship is caught in harbour, it should be confiscated: *De Inventione* II, xxxii: 98).

⁵ Vrouchos 1984, 296; Karouzos 1973, 30.

⁶ Baynes and Moss 1961, xxi.

common contribution"⁷. Under Emperor Leo VI (886-911), Justinianic legislation translated into Greek, then the official language of the Empire, became more readily available to the public. Thus, in the corpus known as the *Basilica*, the Rhodian Sea Law was included with its Greek name, *Νόμος Ροδίων Ναυτικός*⁸. A few centuries later, the jurist Constantine Armenopoulos (1320-1380) included it in his corpus, known as the *Hexabiblos* because it comprises six volumes. The chapter entitled *Περί Ναυτικών* (On Maritime Matters) states that all maritime problems should be dealt with exclusively according to the Rhodian Sea Law⁹, and gives a clear description of the principle of jettison¹⁰. Applied even after the Fall of Constantinople (1453), this law seems to have been the basis for all maritime legislation prevailing in the Mediterranean throughout the Middle Ages¹¹.

According to Gustave Glotz, "the Greeks, a race exquisitely talkative, gave to us what the grave and taciturn Romans never did: a legend of marvellous abundance and variety". Thanks to this legend, Greek law "has the privilege of presenting us a rudimentary society before showing us a society of a refined culture"¹². And, as we have seen, the Rhodian Sea Law, which indeed reflects "a society of a refined culture", was transmitted by the "grave and taciturn Romans". Since this law incorporates customary rules based on experience, right-mindedness and a sense of justice¹³, one wonders how far in the past Glotz's "rudimentary society" which first elaborated them can be placed. It is true that Rhodes, thanks to its privileged geographical location, was on the crossroad connecting three continents –Europe, Asia and Africa–, and in historical times her ships could sail to Egypt all the year round and not just during the summer months, as was the case with the ships of her great competitor, Athens¹⁴. Moreover, as Strabo remarks, the Rhodians, although non-democratic, observed ancestral custom, were concerned about the people and cared about the poor¹⁵, and long "before the establishment of the

⁷ *"De lege Rhodia de jactu"*: Ashburner 1909, cclii; *"Lege Rhodia cavetur, ut, si levandae navis gratia jactus factus est, omnium contributione sarcitur quod pro omnibus datum est"* (after Vrouchos 1984, 193).

⁸ Book 53, title 8; Ashburner 1909, cclii; Vrouchos 1984, 300.

⁹ Armenopoulos 1971, 152 § 1.

¹⁰ Armenopoulos 1971, 154 § 16: «ἐάν διά τό κουφισθῆναι τό πλοῖον ἀποβληθῶσι φορτία, πάντων συνεισαγόντων ἀποφέρονται τά ῥιφθέντα πράγματα· καί αὐτό γε μιν τό πλοῖον πρός τήν ἀποτίμησιν αὐτῶν ὑπόκειται τῇ συνεισφορᾷ, ἐξηρημένων τῶν ἐλευθέρων κεφαλῶν καί τῆς σιταρκείας».

¹¹ Vrouchos 1984, 299; Michaelides-Nouaros 1985, 214; Letsios 1995, 306; Zepos 1978, 754.

¹² Glotz 1906, 283-284.

¹³ Michaelides-Nouaros 1985, 214.

¹⁴ Knorringa 1987, 100.

¹⁵ Strabo 14.2.5.

Olympian Games they used to sail far away from their homeland to ensure the safety of their people"¹⁶. Since ancestral custom is often "as binding upon the individual as the most rigid statutory law of later days"¹⁷, it is worth trying to investigate the prehistory of Rhodian maritime custom, particularly since archaeological research has demonstrated that intellectual manifestations can leave traces in the material remains of a society¹⁸.

Men have lived in the Aegean since at least the Middle Palaeolithic period¹⁹, "adapting themselves to the vagaries of its climate while exploiting its resources, and have slowly molded the landscape to their desires".²⁰ For this reason "some of the characteristics of modern Hellas ... are the fruit of geographical and climatic factors which today affect social and economic institutions, even intellectual attitudes, very much as they did four thousand years ago"²¹. Moreover, the Aegean Sea with its countless islands was unique in providing accessibility "to two entirely different reservoirs of peoples and cultures"²². No wonder, therefore, that this sea became a melting pot of ideas and foreign influences, the amalgamation of which gave rise to a unique civilization²³.

Archaeological research in the decades after the Second World War has produced sufficient evidence to enable us to follow, step by step, how the maritime environment was exploited to satisfy the "desires" of the people who lived in the Aegean²⁴. The discovery of Melian obsidian in Mesolithic horizons of the late eighth millennium BC at Franchthi Cave in the Peloponnese²⁵ was the first tangible evidence of maritime activity in the Aegean, suggesting a long period of exploratory visits by foragers-farmers to the islands²⁶. Moreover, the type of ships represented in the rock engravings discovered at Strofilas on Andros²⁷ indicates that the means of sea transportation were adequately advanced by Neolithic times, facilitating permanent settlement of the Aegean islands by early farmers. In fact, this was almost completed before the end of the Neolithic

¹⁶ Strabo 14.2. 10. Translation by H.L. Jones: Loeb 1960.

¹⁷ Finley 1962, 78.

¹⁸ Renfrew 1982.

¹⁹ Caskey 1969, 433; Darlas 1999, 51-88.

²⁰ Starr 1962, 3.

²¹ Starr 1962, 5.

²² Starr 1962, 11.

²³ Dumas 1992; Dumas (in press).

²⁴ Davies 1992, 701; Demoule and Perlès 1993, 358-359.

²⁵ Jacobsen, 1979, 137.

²⁶ Broodbank 1999, 15, 19; Cherry 1985, 15, 21-22; Davis 1992, 702.

²⁷ Televantou 2001; Cevoli 2002.

Age²⁸, which is no longer considered "in *opposition* to Bronze Age society" but "as a period of both continuity and change"²⁹. Tied to their particular local environments, the Aegean islanders became the "engines" of evolutionary innovation³⁰. Thus, it is natural to start from the Neolithic in our search for the roots of ancient traditions which "had for centuries been canonized by customs"³¹.

It has been argued that in prehistoric trade "things exchange hands because each needed what the other had, and not, or not only incidentally, to compensate for a service, seal an alliance, or support a friendship ... imports alone motivated trade, never exports"³². The Aegean islanders, living on fragments of land with limited farming potential, were heavily reliant on imports for their survival. On the other hand, the natural resources of the islands include a variety of minerals and volcanic rocks which, as archaeological research shows, became items of trade as soon as the islands were settled: obsidian, andesite querns, kaolin and emery are often recorded in Neolithic horizons far away from their source³³, evidence that exchange was an important factor for the survival of early settlers on the islands, perhaps crucial for their permanent settlement³⁴. On the contrary, the absence of evidence for Neolithic imports from island sites may be due to the perishable nature of these commodities. Whatever the case, these exchanges can be considered as laying the foundations for the entrepreneurial character of the Greek economy in historical times³⁵.

The emerging activity of tramping trade required full exploitation of the environmental potential, in particular the prevailing winds and the sea circulation³⁶. A survey of the island and coastal settlements shows that the choice of site was dictated by these factors: at the tip of low promontories guaranteeing safe beaching of vessels in any weather³⁷, and at nodal points in the network of sea routes following the surface currents³⁸. Moreover, early Aegean mariners

²⁸ Broodbank 1999, 15; Davis 1992, 703; Demoule and Perlès 1993, 388.

²⁹ Tomkins 2004, 56.

³⁰ Tattersall 202, 45.

³¹ Bowra 1957, 78.

³² Finley 1962, 76.

³³ Renfrew 1972, 19; Dixon et al. 1979, 115 (obsidian and emery); Runnels 1985 (millstones); Pandelidou-Gofa 1995, 140-143 (kaolin).

³⁴ Davis 1992, 704.

³⁵ Doumas 2004, 84-85.

³⁶ Cary and Warmington 1963, 23.

³⁷ Shaw 1990; Doumas 2004, 85.

³⁸ Papageorgiou 2002, 239-444.

have been credited with the earliest systematic, though still empirical, astronomical observations, which will have enabled them to navigate at night³⁹.

There is no direct evidence about transactional practices in the prehistoric Aegean. However, from the discovery of transport vases from various parts of the Aegean at Early Bronze Age sites such as Akrotiri on Thera and Poros-Katsambas near Herakleion on Crete⁴⁰, it can be surmised that there was some kind of tramping barter trade in the Aegean in the third millennium BC. Moreover, to the middle of the millennium are dated two categories of stone objects identified as balance weights. They are considered as representing two different ponderal systems, both of Near Eastern origin, one applied in the north Aegean and the other in the South⁴¹. The standardization of the ponderal system and the almost contemporary introduction of seals for administrative purposes, as documented in the Corridor House at Lerna⁴², indicate that certain rules already had wide currency, constituting a further step towards the change from barter to credit transactions⁴³. This evidence seems to justify Boodbank's observation that "the sources of power in the Keros-Syros Cyclades lay primarily in the very activity and practice of maritime movement itself" and that this movement, a commodity in its own right, resulted in the exchange of not just artefacts, but of knowledge "both of the meaning and worth of material things, and of the places and people forming the world at whose heart the trading community lay"⁴⁴.

There is also sufficient evidence that practices developed by the maritime communities of the Early Bronze Age were gradually established as customs by the end of the Middle Bronze Age, when standard values and measuring systems had to accommodate transactions beyond the Aegean, with east Mediterranean lands⁴⁵.

Although scholars still insist in considering the Cretans as the *par excellence* seafarers in the Aegean during the Middle Bronze Age, who were succeeded by the Mycenaeans in the Late Bronze Age⁴⁶, there is ever-increasing archaeological evidence that this role was reserved for the islanders. The aforementioned Early Bronze Age stone weights are "only rarely documented in Crete"⁴⁷, but even the later lead balance weights and stirrup jars, both considered as Cretan inventions, occur at island sites in quantities far greater than those

³⁹ Ovenden 1966.

⁴⁰ Dimopoulou 1997, 433; Dimopoulou-Rethemiotaki et al. 1997, 87-90.

⁴¹ Rahmstorf 2003.

⁴² Caskey 1964, 785; Heath-Wienkie 1989, 505; Poursat 1995, 28.

⁴³ Pierris 2000, 6.

⁴⁴ Broodbank 1992-93, 11.

⁴⁵ Doumas 1985; 1986; 1991; Katsa-Tomara 1990; Michailidou 1990.

⁴⁶ Casson 1959, 24; Mylonas 1973, 360; Tzachili 2000, 71.

⁴⁷ Rahmstorf 2003, 294.

encountered in Crete or on the Mainland⁴⁸. Indeed, if transit trade was not in the hands of islanders, sites such as Trianda on Rhodes, Kastri on Kythera, Ayia Irini on Kea, Phylakopi on Melos, Paroikia on Paros, Grotta on Naxos, Colonna on Aegina and Akrotiri on Thera, would never have developed and thrived as important harbour towns, often of cosmopolitan character⁴⁹. The role of these islands as intermediaries for transmitting various elements of Late Bronze Age Cretan culture to the Greek Mainland was acknowledged long ago⁵⁰, and the effort of historians and archaeologists to support the maritime hegemony of Crete over the Aegean, based simply on legends recorded by Herodotus and Thucydides⁵¹, does not seem to be supported by archaeological research⁵².

The Late Bronze Age palace-controlled economy both on Crete and the Greek Mainland was based mainly on agriculture and animal husbandry, as is evidenced by the archaeological record and confirmed by the written documents. Very few of the texts in the Linear B tablets "can be interpreted with some reasonable probability as dealing exclusively or primarily with maritime activities"⁵³. The only testimony of overseas contacts in these texts is restricted to the names of exotic commodities and ethnic names. But, as has been pointed out, these "do not prove that the Mycenaeans themselves were actively trading for and acquiring these materials by means of their own ships"⁵⁴. Moreover, although there is abundant information about stock-raising, there is no mention of fishing, while references to building, maintaining, operating or controlling commercial ships are minimal⁵⁵. Minimal too is the evidence of the Mycenaean palatial centres supervising "an organized system for keeping a war-fleet manned and in working order"⁵⁶. Some terms, such as *na-u-do-mo* (shipbuilder) and *e-re-ta* (rower), and masculine adjectives that are compounds with *naus* (ship), such as *na-u-si-ke-re-te[we]* (Ship-Famous), *e-u-na-wo* (Fine-Ship), *o-ku-na-wo* (Swift-Ship), *na-wi-ro* (Shipman), *e-u-wo-mo* (Fine-Harbourer) have been considered as indicative of seafaring skills in the Mycenaean world⁵⁷. However, specialists in the Linear B documents are sceptical about accepting this interpretation, as "most individuals bearing these names are involved in

⁴⁸ Haskel 1985; Michailidou 1999; 2006; Petruso 1979.

⁴⁹ Blegen 1928, 210; Boulotis 2006; Caskey 1969, 436; Doumas 2006.

⁵⁰ Furumark 1950, 185-186.

⁵¹ Herod. I.171.3; Thucyd. I.8.

⁵² Chryssoulaki 2005; Baurain 1991; Doumas 1982; van Effenterre 1991; Hägg and Marinatos 1984; Mountjoy and Ponting 2000, 178-184.

⁵³ Palaima 1991, 274.

⁵⁴ Palaima 1991, 283.

⁵⁵ Palaima 1991, 284-285.

⁵⁶ Palaima 1991, 287.

⁵⁷ Boulotis 2006, 47.

herding"⁵⁸ and as it is not clear whether the term *na-u-do-mo* refers to a shipwright or merely to a skilled carpenter employed in assembling ships⁵⁹. On the other hand, the fact that large numbers of rowers recorded in the tablets from Pylos (about 600 are counted in one tablet alone) "were granted parcels of land according to their status as settlers", may indicate that these rowers were recruited from outside, as one contingent identified as Zakynthian suggests⁶⁰. Recruiting islanders to man ships was a common practice in the Aegean even in later historical periods⁶¹, and perhaps Herodotus had based on this practice his remark that the legendary King Minos of Crete manned his ships by recruiting islanders⁶². But even the historian himself considered Minos as a mythical figure, as is clear from his statement that the first "of the so-called human race" to dominate the sea was Polycrates of Samos⁶³, that is a true islander.

The leading role of the Aegean islands in maritime affairs is acknowledged even in the Egyptian sources, in which there is reference to neither Crete nor Mycenaean Greece, but to the "People of the Isles in the Great Green (Sea)"⁶⁴. The abundant evidence of contacts with the east Mediterranean yielded by the site at Akrotiri on Thera, otherwise a rather poor island, leaves no doubt as to which exactly were the "Isles in the Great Green"⁶⁵.

It has been said that of the Homeric epics, the *Odyssey* "smells of brine and seaweed and ozone"⁶⁶. Indeed, it seems to describe an island world in which, "whether in trade or in any other mutual relationship, the abiding principle was equality and mutual benefit. Gain at the expense of another belonged to a different realm, to warfare and raiding, where it was achieved by acts (or threats) of prowess, not by manipulation and bargaining"⁶⁷. And it is in this world, before the Olympic Games, that tradition has it, the Rhodians emerged as masters of the seas. However, as we have seen, by that time many principles concerning navigation and maritime affairs had been elaborated by the Aegean islanders as a whole. Thus, it is no surprise that the "abiding principle of equality and mutual benefit" became a statute in the fifth-century BC Rhodian Sea Law, part of which is the principle of jettison.

⁵⁸ Palaima 1991, 284.

⁵⁹ Palaima 1991, 287.

⁶⁰ Palaima 1991, 308.

⁶¹ Doumas 1982, 11-12.

⁶² Herod. I.171.3.

⁶³ Herod. III. 122.

⁶⁴ Sakellarakis 1984, 197, 201-202.

⁶⁵ Doumas 1985; 1986; 1991; Bichta 2003.

⁶⁶ Cary and Warmington 1963, 29.

⁶⁷ Finley 1962, 77.

As has already been mentioned, the principle of jettison is applied in case of emergency, "in order to lighten the ship", and the Medieval Latin term *avaria* or *havaría* was used to define it. This same term is also used in modern Italian and Portuguese, and its variations *averia*, *avarie*, *avarij*, *Havarie* and *average* in Spanish, French, Dutch, German and English respectively. *Αβαρία* (*avaria*) is also used in the modern Greek nautical vocabulary for the act of jettison, but although in both ancient and modern Greek *αβαρίας* means "lacking weight", attempts to associate the word with *βάρος* (weight) have not been successful⁶⁸. A consensus of agreement, however, seems to have been reached about the etymology of the word from the Arabic *āwarīya*⁶⁹.

The Arab conquest of Syria was a landmark in Mediterranean maritime history. By learning Mediterranean navigational techniques, introducing new navigational instruments, such as the lodestone or magnetic compass, and making improvements to the ships, such as the lateen sail, these horsemen of the desert became skilled mariners and masters of the Mediterranean Sea. Their knowledge was further increased after the translation of many Greek texts into Arabic, enabling them to make great scientific and mathematical advances in Mediterranean navigation⁷⁰. It was the turn of the Arabs to take the baton in the Mediterranean and put their own tessera in the mosaic of Western civilization. "Just as the Romans had used the naval resources and aptitudes of the Greeks to further their imperial expansion, so the Arabs found a race of seamen ready to their hand in Egypt and in Syria. They also acquired a fleet of merchant ships and war galleys, as well as dockyards; and a maritime administrative system that was inherited from the Byzantines and the Romans"⁷¹. Thus, whatever the etymology of the word *avaria* may be, its content and meaning is the same as provided in the Rhodian Sea Law transmitted through Roman and Byzantine Maritime Law. It is the principle of jettison, which "contains the obvious germs of both partnership and insurance, such as these institutions have developed later, up to our days"⁷².

⁶⁸ Εγκυκλοπαιδικόν Λεξικόν Ελευθερουδάκη, Athens 1927.

⁶⁹ Dozy 1881; Kahane and Tietze 1988, 81; Vidos 1939.

⁷⁰ Bradford 1971, 316–321.

⁷¹ Bradford 1971, 310.

⁷² Zepos 1978, 754.

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*Rhodes and the Orient
in the 7th c. BC: The evidence
from a primary cremation
at Daphne in Ialysos**

Pavlos Triantafyllidis

THE SEVENTH CENTURY BC is the period, as it has been already widely accepted¹, when the Greek art was brought to contact and influenced by the artistic creations of the Orient. Elaborated artefacts imported from the East, brought through the east Mediterranean trade routes², are frequent finds in the Greek world. They have been mainly found in widely respected Greek sanctuaries as votive offerings, but also in graves as funerary offerings. Sometimes such oriental artistic forms were source of inspiration and were either adapted or remodelled by the Greek artists to new original artistic ideas and creations³.

The finds from Rhodes

Within this frame of the external contacts network between the SA Aegean and the Orient during the late 8th and the 7th century BC through both the maritime and the terrestrial trade routes, a series of various imported oriental artefacts found in Rhodes are studied. Some of these artefacts indicate their provenance from the far away area of the Eurasian Steps and are examples of the culture of the nomadic people of the NW Iran, the Transcaucasus area or from the Urartu kingdom.

A unique primary cremation, the cremation no 2, excavated by Amedeo Maiuri⁴ at 1916, at the archaic cemetery on the hill of Daphne at Ialysos on

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¹ Boardman 2001, 99-102, 169-170; Stampolidis 2001, 70-76.

² Birmingham 1961, 185-195; Muscarella 1970, 109; Guralnick 1989, 151, 153-155; Strøm 1992, 46-47; Stampolidis 2003, 64-65.

³ Boardman 1996, 71-73; Guralnick 1989, 171-176.

⁴ Maiuri 1926, 261-262, fig. 162.

Rhodes, is notable for its unusual burial offerings. Among the objects found as burial offerings there is an attachment to a scepter in the form of a bronze mould-casted figurine of a wild goat (*caprea aegagrus*)⁵ (figs 1-2) of oriental provenance, a clay bird-shaped askos⁶ with a bull's head (figs 3-4), which is a local workshop product presenting obvious Cypriot features⁷, and part of a clay compact figurine of an oxen⁸ (fig. 5). Both the typological and the stylistic analysis of these burial offerings are indicative for the dating of this primary cremation to the 7th century BC.

Among these offerings the bronze attachment of a scepter, is notable, since this is still a unique find in the Dodecanese. This attachment which was

⁵ Rhodes Archaeological Museum, Inv. no. 1341; Maiuri 1926, 262, fig. 162.II.2.

⁶ Maiuri 1926, 262, fig. 162. II.1; Rhodes Archaeological Museum, Inv. no. 1340. Clay zoomorphic rhyton vase in the form of a bull's head. Almost intact it is joined by many pieces, and it is partly restored with plaster. Breaks are preserved at the lower part of the oval shaped body. The feet were appended and are missing; they probably were three or four button like protuberances. At the one upwards and left there are traces of the appended clay still preserved, at the other upwards at the right there are traces of the imprint of the appended clay as it is at the other down at the right, while there is a deep breakage at the place of the other down at the right caused by the appended clay. The appended feet are not placed symmetrically but diagonally indicating movement. The eyes and the ears have been rendered with appended clay discs one of which is missing around the eyes their outlines are rendered with incision. The handle has oval section and it is flat. It ends at the edge of the trefoil rim. The clay is buff, fine with inclusions (Munsell 7.5YR/7/6 reddish yellow). The paint is either reddish brown (Munsell 2.5YR/5/6/ red) or gray (Munsell 10YR/5/1 gray) or dark black due to the uneven baking (Munsell 2.5Y/2/5 dark). The spout and the handle were wheel made. The paint decoration consists of two very faint horizontal reddish brown bands mainly at the mouth and the low cylindrical neck. Dimensions: max. length 0.150m., max. height 0.080m., width of the handle 0.012m., thickness of the handle 0.006m., diameter of the neck 0.017m., diameter of the mouth 0.018m.

⁷ Bird-shaped askoi and vases with painted decoration from Rhodes are fairly known: Koehl 2006, 10-11, Benzi 1992, 168-169, Kinch 1914, 56, fig. 24 (Castellos, dolphin? or bird); Maiuri 1926, 136, fig. 60 (two bird shaped vases, Ialysos, tomb 20, LH IIIC period); Desborough 1972, 257 no. 59, 266-267, note 22; Zoomorphic vases rendered with painted decoration: Kinch 1914, 57, fig. 25 (Massari Malona, geometric period); they are also known from Kos: Stampolidis - Karetsou 1998, 195, no. 214 (Seragia, tomb 5) dated to the Late Bronze Age and the early historic period. Most of these vases have been found in Cyprus where one of the most important production centres was active till the Cypro-archaic I period, see Stampolidis and Karetsou 1998, 32, 46-47, 107, 112, Pieridou 1970, 99. The rhodian example with the three small feet, has a close parallel in the shape with a bulls head from Emporion (Ampurias) in Spain, see *The Bull in the Mediterranean World. Myths and Cults, Cultural Olympiad 2001-2004*, Hellenic Ministry of Culture, Athens, 2003, 166 no 37 (late 6th c. BC); for other parallels, see also Maximova 1927, 106-107, fig. 14 (Thera), pl. XI. 44 (Rhodes), pl. XXIII.93 (Berlin, Antiquarium), pl. XXVII.104 (Louvre).

⁸ Archaeological Museum of Rhodes, Inv. no 1342, Maiuri 1926, 262, fig. 162. II.3. This object is today lost.

the crowing of the scepter is presented in the form of a bronze mould-casted compact figurine of a wild goat (figs 1-2). It is standing on a narrow base in the shape of a double ring with a vertical circular perforation probably for the attachment to the wooden or the metal rod of the scepter. An equivalent perforation exists at the middle of the back of the animal in order that the rod and the crowing of the scepter would be placed through it. The wild goat has been rendered in three dimensions in standing position with a short highly upwards placed tail in oblique angle to the body, convex breast, triangular face and long horns bending backwards. Incisions indicate the eyes. The muscularity of the body is rendered with light plasticity of the volumes. The few incisions, such as the few anatomic details mainly at the legs and the feet, suggest some realism in the rendering and indicate the secluded nearly photographic movement of the aegagrus. The spine of the ears bear a circular perforation from which small pendants like earrings would have been hanging⁹. This view has been reinforced by the presence of the preserved ring-like protuberances at the ears of the aegagrus from Rhodes; small bells¹⁰ would have been hanging from there; this fact in relation to the hitting of the scepter or the rod on the ground should have created a significant echo and in that way a significant impression would have been made by this effect to the other present people, notifying the passing by of the high status owner¹¹ of the scepter. Similar bell-like pendants have been found during the early parts of the first millennium BC at aegagrus-like endings of cheek pieces, or of personal adornment artefacts (like needles, pinheads and necklaces), known either in Scythian artefacts of the Koumban culture¹², or in Caucasus¹³, and also in the zoomorphic Persian metalwork¹⁴ of the northwest Iran.

This kind of prestige symbols of power, like the scepters and rods are very few in the Greek world during the geometric and the archaic periods and seem to be imported from the East and from Cyprus¹⁵. These objects have

⁹ Jantzen 1972, 62; Stampolidis 2003, 480.

¹⁰ For bells of the archaic and classical periods in Greece, see Simon 1986, 293-294; Villing 2002; for bells as earrings, see 255-256, note 68, and for the function, 271-272, 277-282.

¹¹ For the use of the scepters as prestige and power symbols but also as symbols of higher social status during the early historic period, see Kourou 1994, 203-204, 213; Mondì 1980, 203-216; Bérard 1972, 219-227.

¹² Aruz, Farkas, Alekseev, Korolkova 2000, no. 139 (mid-1st millennium BC); Ivantchik 2001, 218-225; Villing 2002, 261, notes 95, 147, 151 and 154.

¹³ Villing 2002, 256, note 67, 257, note 73, 262-263.

¹⁴ Calmeyer 1969, 111-112; Muscarella 1988a, 273-281, nos 382-384; Mahboubian 1997, nos 239, 245-246, 249-250 (pinheads), no. 293 (pendant cluster), Villing 2002, 263.

¹⁵ Kourou 1997, 222; For the scepters dating to the prehistoric period from the Greek area, see Kourou 1994, 207, 211 and 205-207.

been found as votive offerings at famous sanctuaries, like the spheroid crowning of a scepter from the sanctuary of Athena at Lindos¹⁶ of Cypriot provenance, and very seldom as funerary offerings, like the small bronze scepter found in the Sub-protogeometric burial of the 9th c. BC at Lefkandi¹⁷ of oriental provenance.

Bronze crownings of rods or scepters in the form of aegagroi are even rarer in the Greek world. They are usually present as votives from Heraion of Samos¹⁸, but also from the great altar north of the sanctuary of Apollo Daphnephoros at Eretria¹⁹. The above examples are the closest stylistically parallels to the aegagrus from Rhodes²⁰.

Small bronze statuettes of aegagroi with either naturalistic or schematic features are quite common in various oriental minor artefacts mainly of the pre-achaemenid and the achaemenid²¹ periods. The wild goats both male (aegagroi) and female (aeges) are some of the most favorable heraldic motives of the zoomorphic art from Luristan²² which was developed at the mountains of Zagros; these influenced the later zoomorphic style of both the Thracian and the Skythian arts. Artefacts from Iran, such as those from Luristan, are

¹⁶ Blinkenberg 1931, 206-207, pl. 26; Bucholz 1980, E 331-332, Abb.84; Braun-Holzinger-Pehm 2005, 60-61, 64, nos 10-11, Taf. 11d, 12a; Birmingham suggested that the maceheads from Lindos are closely similar to the maceheads with iron and animal head crownings from Iran: Birmingham 1961, 192, figs 8-9.

¹⁷ Popham, Sackett, Themelis 1979, 252, tomb 5, pls. 93.5.3, 239 j-k, with bibliography; Kourou 1994, 215, note 138.

¹⁸ Jantzen 1972, 63, pl. 58; Moorey 1974a; Muscarella 1977, 34, fig. 7; Stampolidis 2003, 480, no. 872.

¹⁹ Huber 2003, 73-76; Schmidt 2001, 25.

²⁰ In the British Museum there are some bronze figurines of goats or rams which probably should be related to scepters, and have been found at tombs at Kameiros; they are dated to the 7th c. BC, and were found during excavations of the 19th c.: Walters 1899, 11, no 143 and 13, no. 173.

²¹ The bronze aegagrus of Norbert Schimmel collection at the Metropolitan Museum of New York is a work of the achaemenid metalwork as the lack of details in the rendering indicates: Muscarella 1974, no. 152 (Iran, mid 1st millennium BC); the same applies for the bronze aegagrus from the Mildenberg collection at the Museum Für Vor-und Frühgeschichte in München: Zahlhaas 1996, 158-159, no. 135; Walker 1996, 158-159, no. III.247, coloured table 31 (second half of the 5th c. BC). For the aegagroi of the Persian-achaemenid art, see Schmidt 2001, 25-26, notes 56-57.

²² Kozloff 1981, 7; For the art of Luristan, see Muscarella 1988a, 112-154; Muscarella 1988b, 33-44 with bibliography; the author reaffirms the term "Luristan Bronzes" from that characteristic corpus of material "that is formally and stylistically distinct from other Iranian or Near Eastern objects and styles"; see also Hermann 1968, 6, note 26.

very little known at the Greek world²³, and have been found mainly in sanctuaries, like those from the Heraion of Samos²⁴, from Crete²⁵, from the sanctuary of Athena at the acropolis of Lindos²⁶, and from the sanctuary of Athena Itonia at Philia in Thessaly²⁷.

Mould casted aegagroi at the Iranian minor arts²⁸ are usually seen in bronze pinheads²⁹ or in fibulae³⁰, as endings of pendants³¹, mainly in cheek-pieces³², and more rarely as bronze attachments in the form of small protomes³³. Miniatures of bronze aegagroi which were used as crowning members of rods or sceptres and have been dated to the 7th c. BC³⁴, have been found at the broader area of Luristan³⁵, at the Gilan³⁶ county in Persia, at Ekbatana³⁷ (Hamadan), capital of the medic kingdom, at the areas of Marash (Mar'aş) at the South East Anatolia –North Syria³⁸ and at Kayseri³⁹ of Central

²³ Hermann 1968, 28; Muscarella 1977, 33; Schmidt 2001, 11-29 (Samos, Sanctuary of Athena Itonia at Philia in Thessaly, Giamalakis collection); Schmidt 2006, 239-247, especially 240-241.

²⁴ Jantzen 1972, 74-75; Muscarella 1977, 33-34; Schmidt 2001, 18-22; Stampolidis 2003, 481 no. 873 (9th-8th c. BC).

²⁵ Muscarella 1977, 33; Schmidt 2001, 14-18.

²⁶ Blinkenberg 1931, 200, no. 613, pl. 24; Herrmann 1968, 22, Abb. 17 (bronze bridle imitation of Luristan type) and here note 50 (bronze pendants or seals). Moorey and Muscarella believe that the bronze bridle from Lindos should be of Assyrian manufacture, see Moorey 1974a, 194; Muscarella 1977, 40.

²⁷ See note 23.

²⁸ For the Persian zoomorphic art, see Root 2002, 169 ff.

²⁹ Muscarella 1988a, 128-129, no. 200, 176, no. 284.

³⁰ See for example the bronze decorated fibula of the Stora collection: Godard 1931, 112, pl. LXIV.112,

³¹ *Sept Mille Ans d'Art en Iran, Petit Palais, Octobre 1961-Janvier 1962*, Paris, 1962, 77, no. 472; Moorey 1974b, 87ff; Muscarella 1988a, 136 ff., esp. 142, no. 216.

³² Muscarella 1988a, 155 ff., mainly 163, 165, nos 255, 258-259; Moorey 1974b, 87-89, 91, nos 53-55, 56A.

³³ Muscarella 1988a, 106-108, nos 76-78, 263-264, no. 352.

³⁴ Ghirshman 1964, 94, fig. 124.

³⁵ See the two compact bronze figurines of aegagroi from the Edward Jackson Holmes collection, which were found at Surkh Dum in Luristan; Pope 1945, 16, pl. 17b.

³⁶ Nagel 1963, 14, pl. 6, no. 14; Huber 2003, 73.

³⁷ Ghirshman 1964, 94-95, fig. 124; the finds have been dated again to the Parthian period: Huber 2003, 74 with bibliography.

³⁸ *Asariatika Müzesi: Tunç Eserler Rehberi*, Istanbul, 1937, pl. XVII.2 (Inv. no. 3833); Moorey 1974a, 193.

³⁹ Moorey 1974a, 193, note 56.

Anatolia; many other similar artefacts are known in both private⁴⁰ and museum⁴¹ collections without certain provenance.

The stylistic differences seen in such crownings with aegagroi of the above mentioned oriental scepters do not allow their certain assignment to particular workshops, since most of them have no certain provenance. Jantzen⁴², based on clearly stylistic criteria, suggested their assignment to a workshop of the later Hittite period⁴³, which was active in the area of South Anatolia or North Syria; Hermann⁴⁴, Moorey⁴⁵ and Muscarella⁴⁶ on the contrary, have argued about the Iranian or west Persian provenance of this workshop. Recently, Huber⁴⁷ reexamined all the known artefacts and compared the urartian aegagroi now in the Berlin Museum and in Azerbaitzan which are similar to the portions to the aegagroi from Eretria and Rhodes, and suggested that they are products of a workshop active in the area between Zagros Mountains and North West Iran⁴⁸ and the Urartu kingdom.

So far it seems that within this geographic area the aegagrus crowning from Rhodes workshop should be active. This aegagrus has the same features like the aegagroi from Samos and Eretria. They are all characterized by the muscular plasticity of the rendering and the simplicity of the outline features that very distinct to the over schematic nearly geometric outlines of the style of the Luristan figurines.

A series of luxury artefacts of personal adornment known from the Heraion of Samos⁴⁹, and from the apothetes of the three major rhodian sanctu-

⁴⁰ David-Weill Collection: Pope 1967, 1.9E; Amiet 1976, 91, no. 198; Pomerance Collection: *The Pomerance Collection of Ancient Art*, The Brooklyn Museum, New York, 1966, 42, no. 48.

⁴¹ Amiet 1976, 89 (Louvre Museum); Speleers 1931, 60-63, fig. 27 (Museum Royaux d'Art et d'Histoire du Bruxelles); Merhav 1991, 279, fig. 4a-b.

⁴² Jantzen 1972, 62-63, Taf. 58 (7 examples); Kilian-Dirlmeier 1985, 252. Calmeyer and Börker-Klähn agree that Jantzen's identification is not certain: Calmeyer 1973, 113; Börker-Klähn 1975, 539.

⁴³ For Hittite imports in Rhodes during the Late Bronze Age, see Canby 1969, 141-149, especially 147-148, pl. 41b (Lindos).

⁴⁴ Hermann 1975, 396-397.

⁴⁵ Moorey 1974a, 192 ff.

⁴⁶ Muscarella 1977, 34, pointed out that "the goats were excavated in five different areas at Samos and that each is slightly different in height, width and body structure, which surely indicates that they should be considered as seven separate objects, rather than as parts of a single unit".

⁴⁷ Huber 2003, 75.

⁴⁸ Stampolidis 2003, 480, no. 872.

⁴⁹ Gehrig 1964, 6, 66-69, 72, no. 20, pl. 10.1-2; Herrmann 1968, 31-32, note 117, fig. 26.

aries of Lindos⁵⁰, Ialysos⁵¹ and Kameiros⁵², should have been assigned as creative remodellings of oriental or iranian prototypes of the late 8th and the 7th c. BC, known from the area of the distant Orient mainly from the North West Persia and the Urartu kingdom. The same suggestion applies to a series of artefacts, which have been found as burial offerings at tombs at Phanes in Rhodes⁵³. These are bronze artefacts pendants⁵⁴ or seals⁵⁵ and an animal set on a shank that is itself attached with opposed and heraldic placed protomes of wild goats (*caprea aegagrus*)⁵⁶. The above examples from Rhodes are made of a compact, vertical and circular rod with horizontal spiral grooves in relief and are ending either to a pointed member with flat base such as in the metalwork of Caucasus⁵⁷ and Luristan⁵⁸ or to a perforated wheel base which is a clear influence of the flourishing Peloponnesian metal workshop of the 8th and the 7th c. BC. According to Bernardini⁵⁹ these are local imitations of a newly founded rhodian metal workshop; Muscarella⁶⁰ and Hermann⁶¹ on the contrary suggest that this element should be seen in the view of contacts and influences from Iranian metal prototypes. Undoubtedly, the iconographic type of *caprea aegagrus* has been inspired by oriental and Iranian prototypes and has been adapted and transformed to a new Greek form and style. It has been creatively adapted in the rhodian terracotta manufacture, but also as a motif in the painted pottery of the wild goat style⁶² produced in East greek pottery workshops.

Part of a bronze belt (fig. 6) from the armour of a warrior has been found as a votive at the apothetes of the Athena temple at Ialysos⁶³; this seems

⁵⁰ Blinkenberg 1931, 103–104, nos 223b, 224, 225, pl. 11; Herrmann 1968, 31, Abb. 26; Muscarella 1977, 35, fig. 10.

⁵¹ Martelli 1988, 104–120, especially 109, note 48.

⁵² Bernardini 2006, 48–50, no. 16, tav. IX.XXIII.

⁵³ Walters 1899, 12, nos 161–166; Roes 1970, 200, fig. 13, where a similar artefact has been mentioned at the Museum of Istanbul; Bernardini 2006, 49, note 323. For other similar artefacts from Greece, see Marangou 1985, 158 no. 254; Bernardini 2006, 49, note 326 with bibliography.

⁵⁴ Hermann 1968, 31; Bernardini 2006, 49.

⁵⁵ Muscarella 1977, 35 (excavated examples from Marlik, Iran).

⁵⁶ Schmidt 2001, 13, note 8; Keller 1909, 296.

⁵⁷ Hermann 1968, 31–32, 36, notes 113, 117; Bouzek 1997, 190 ff., figs. 220.11, 236; Bernardini 2006, 49.

⁵⁸ Muscarella 1977, 35–36, fig. 11, note 14; Muscarella 1988a, 181, no. 297.

⁵⁹ Bernardini 2006, 50.

⁶⁰ Muscarella 1977, 36.

⁶¹ See note 54.

⁶² Muscarella 1977, 36; Boardman 2001, 170–174; Bernardini 2006, 50.

⁶³ Martelli 1996, 853–861; Philimonos et al. 2006, 26.

to have been imported from the area of the highlands of Armenia and Transcaucacus and the Urartu kingdom. It is a very seldom find at the Dodecanese and in general at the Aegean. Part of the rectangular bronze leaf is preserved with perforations for its attachment at the leather under layer of the belt. The bronze leaf is hammered and decorated in two horizontal bands. In these bands both zoomorphic and vegetal motifs are presented, mainly lions and mythical wild birds which are bordered by geometric designs and rosettes, the details of which have been curved and incised according to the urartian technique⁶⁴.

Imported minor artefacts from the kingdom of Urartu are very rarely known from the Greek world, and such have been found mainly at the Heraion of Samos⁶⁵ and at Rhodes, both of them insular areas with important strategic position in the sea trade route of contacts between the Orient⁶⁶, i.e. Syria and Palaistine, and the Aegean.

Discussion

These oriental imported finds from Rhodes give us the opportunity to re-examine the trade routes between the Aegean and the early urban civilizations of the Near East mainly of Iran and of the South Caspian area, during the early part of the 1st millennium BC, and especially the late 8th and 7th c. BC Rhodes has a significant geographic position on the sea trade route from the east Mediterranean to Cyprus and the Greek mainland; due to this fact Rhodes had many and frequent trade contacts with the Orient. The famous Athena sanctuaries at Ialysos, Kameiros and Lindos gave us plenty of evidence for those widespread Near Eastern contacts; votive offerings such as ivories⁶⁷ of Syrian and Phoenician manufacture, limestone and stone figurines from Cyprus and Egypt, bronzes of Syrian, Phrygian, Cypriot and Assyrian⁶⁸ origin, and faience objects of Syrian⁶⁹ and Egyptian⁷⁰ origin have been found in their

⁶⁴ Martelli 1988, 854.

⁶⁵ Jantzen 1972, 76–80; Muscarella 1978, 61–72.

⁶⁶ Stampolidis and Karetsou 1998, 107.

⁶⁷ Martelli 1988, 112–113; Martelli 1990, 396; Philimonos et al. 2006, 27.

⁶⁸ Braun-Holzinger-Pehm 2005, 26, 39, no 37, Guralnick 1989, 157, fig. 12c (bronze figurine of a rider on a camel which is in seated position οκλάζουσα στάση); Herrmann 1968, 22, fig. 17; Muscarella 1977, 40 (fragment of a horsebit from Lindos) and see note 26.

⁶⁹ Boardman 1996, 94, fig. 59; Stampolidis 2003, 71.

⁷⁰ Skon-Jedele 1994, nos 1987–2204 (Kameiros), nos 2205–2334 (Lindos), nos 2337–2644 (Ialysos), nos 2335–2336 (Vroulia), Kousoulis, Morenz 2007, 179–192, especially 184–191.

apothetes. Lots of imported pottery, but also many imitations of Cypriot and Phoenician vessel prototypes⁷¹ are also seen there at the same time.

The shrinking of the Euboian trade which has been observed at this period, gave the opportunity to the newly established rhodian naval power⁷² to develop its own political and trade networks by the foundation of new colonies-emporeia⁷³, and to establish its own local industries adapting the existing oriental influences⁷⁴, in metalwork⁷⁵, pottery⁷⁶, glassmaking⁷⁷ and of various glazed materials⁷⁸. The Rhodians with their unsettled trade mentality, during this period achieved to be ahead and to control the transports and thus the trade between significant centres of the east Mediterranean, like Phaselis, Soloi, and Tarsos of Cilicia, until its conquest by the Assyrians in 696 BC, in south modern Turkey, and like Al Mina in North Syria after 700 BC⁷⁹. The relations between Rhodes and the Near East the period after the conquests of the cities of Syria and Palaistine by the Assyrian kings, has been in general interpreted "as development and trade relation or as peaceful and quiet movement of people, ideas and artefacts"⁸⁰.

Within this frame, rhodians and other merchants from the Orient, skillful craftsmen and luxurious artefacts were moving from the far distant Orient, from Caucasus, west Persia and the Urartu kingdom, across the Zagros Mountains via the terrestrial routes leading from Assyria to the trade centres of the North Syria and via the maritime trade routes⁸¹ to Cyprus and the in between trade harbours of South Anatolia to the rhodian Peraia, ending to the island of Rhodes. All the above mentioned artefacts probably reached Rhodes via this complicated trade routes from Transcaucasus and the North West Persia.

⁷¹ Philimonos et al. 2006, 35; Stampolidis 2003, 69, 254-255, 297; Stampolidis and Karetsou 1998, 124, 129; Coldstream 1982, 268-269

⁷² Boardman 1990, 181-182, 186; Philimonos et al., 2006, 22.

⁷³ Wooley 1946, 189, Stampolidis and Karetsou 1998, 108, 122; Philimonos-Tsopotou et al. 2006, 22-23.

⁷⁴ Sherrat 1993, 370.

⁷⁵ Martelli 1988, 107-108; Bernardini 1996; Triantafyllidis 2005-2006, 122.

⁷⁶ Martelli 1988, 105; Sherrat 1993, 370.

⁷⁷ Stampolidis and Karetsou 1998, 134; Stampolidis 2003, 73; Triantafyllidis 2006, 254-260, especially 257-258 (in Greek, English summary, 254).

⁷⁸ Martelli 1988, 109-110; Philimonos-Tsopotou et al. 2006, 39.

⁷⁹ Boardman 1996, 63-64, 66; Stampolidis - Karetsou 1998, 122, 130; Philimonos et al. 2006, 22.

⁸⁰ Sherrat 1993, 366-367; Stampolidis and Karetsou 1998, 125.

⁸¹ The sea route leading from the Syropalaistinian shore to the south shore of Asia Minor had to be via the Dodecanese: Muscarella 1977, 46; Negbi 1992, 603-609, especially 613, fig. 3; Sherrat 1993, 375; Boardman 1996, 73; Stampolidis and Karetsou 1998, 108-109, 129, Stampolidis 2003, 43; Philimonos et al. 2006, 22-23.

The bronze attachment of a scepter in the form of wild goat from Rhodes is one artefact of this kind. Its presence in the Daphne Ialysos cremation burial is indicative for various stimulating hypothesis, such as either about its probable trading by a rhodian or another merchant from the Orient in Rhodes or about its transport to Rhodes by its owner who probably travelled to the distant Orient, which was famous for its wealth during a period that the technological development, the trade and the peaceful movement of people, ideas and artefacts were at a peak.



Fig. 1: Daphne at Ialysos. Bronze crowning member of the scepter in the form of a wild goat (Archaeological Museum of Rhodes, No. 1341)



Fig. 2: Drawing representation of the fig. 1

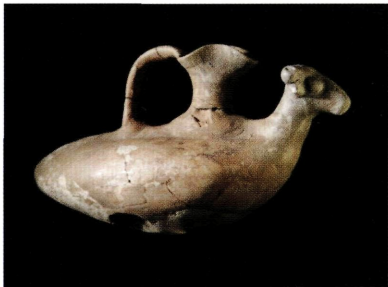


Fig. 3: Daphne at Ialysos. Clay bird-shaped askos (Archaeological Museum of Rhodes, No. 1340)



Fig. 4: Drawing representation of the fig. 3



Fig. 5: Daphne at Ialysos. Drawing representation of a clay figurine of an oxen



Fig. 6: Apothetes at Ialysos. Uartian bronze belt (Archaeological Museum of Rhodes, No. 8079)

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*Economy and trade routes
in the Aegean: The case of Samos
(archaic to hellenistic times)*

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SAMOS, 468.3 square kilometres in area, lies just off the Asia Minor coast, from which it is separated by the Mykale channel, "the seven-stadia strait" (ἑπταστάδιον πορθμόν) of the ancient sources (Strabo XIV, 637). The island was destined to play a leading role in the east Aegean, as well as the wider eastern Mediterranean region, throughout Greek Antiquity.

Predominantly mountainous (even its name is apparently due to its particular geomorphology: "they used to call lofty places 'Samoi'" (ἐπειδὴ σάμους ἐκάλουν τὰ ὕψη), as Strabo notes (VIII 346, cf. also X 457), with two very high massifs, Kerketeus (1,440 m. a.s.l.) and Ampelos (1,153 m. a.s.l.), densely wooded –justifying the poetic epithets Dryousa, Doryssa, Kyparissia–, with extensive olive groves (Elaiousa), rich vegetation and abundant flowers (Melamphylos, Melanthemos, Anthemis), Samos was endowed by nature with copious springs and rivers, so meriting the epithet Hydrele (see *PWRE*, s.v. Samos (4), cols 2162–2163). Small plains, such as at Misokampos and the larger area of flat land between Heraion and Chora, spread mainly in the south part. Strabo (XIV, 637) extolled the islands fertility: "it produces even bird's milk" (φέρει καὶ ὀρνίθων γάλα ἢ νῆσος) (Menander, fr. 880 K.–A).

According to Themistagoras of Ephesos (*FHG* IV, 512, no. 1), the first Ionian colonists opted to settle near the River Chesios, striking an agreement with their Carian predecessors, who were left to inhabit the hill of Astypalaia, where the later Castle of Lykourgou Logothetes (Kastro tou Lykourgou) was built. This literary tradition, which some historians doubt, seems to be confirmed by the archaeological record, since it is along the bed of this small river that fragments of Protogeometric vases, products of local or Attic workshops, come to light¹. This particular area seems also to be the epicentre of Geometric and Subgeometric vases and sherds, although the radius of their

¹ K. Tsakos, *AAA* 2, 1968, 168; *ADelt* 22, 1967(1969) B2, 463, pl. 339β; *ADelt* 24, 1969 (1970) B2, 385. See also K. Tsakos, "Stadt und Nekropolen: Samos in der archaischen Epoche (6. Jh.)", in J. Boehlau and Ed. Habicht (eds), *Samos- Die Kasseler Grabung 1894*, Kassel 1996, 121.

distribution is much greater². The island's link with the opposite Asia Minor littoral, in the hinterland of which mighty kingdoms developed, such as Lydia and the Achaemenid Empire slightly later, and splendid Greek cities flourished, such as Miletos, Priene, Ephesos, Smyrna and others, is indicated by the choice of site for founding the ancient city of Samos. An eminently nodal location on the sea routes of trade and traffic, between North and South, East and West, was selected³.

Archaic Period

Thus, there is nothing strange in the fact that by the end of the Geometric period, before 700 BC, the island presents a dynamic development of maritime activity. Gradually, from the end of the eighth into the sixth century BC, it embarked on overseas voyages, which led to the founding of emporia and colonies both on the coast of Cilicia (Kelenderis, Nagidos) and the Cycladic island of Amorgos (Minoa), staging posts for supplying ships and controlling the sea lane respectively to the vast East via Cyprus, and to Crete and Egypt⁴.

Proof of this intensive mobility is the host of imported products from the furthest reaches of the then-known world⁵. What is interesting about the distribution of these artefacts on the island, by destination and use, is that the elaborate, precious and peculiar objects from diverse and different lands in the East, are encountered almost exclusively in the Heraion, as votive offerings⁶ of Samian (presumably) merchants and mariners.

Indicative of the Samians' prowess in shipping and their familiarity with sailing overseas is the adventurous, almost legendary, voyage of Colaeus,

² K. Tsakos, *ADelt* 23, 1968 (1969) B2, 378; *ADelt* 24, 1969 (1970) B2, 385; *ADelt* 25, 1970, (1973) B2, 416, pl. 350 and *ADelt* 33, 1978(1985) B2, 333-334.

³ For the nodal position of Samos on the axis of the N-S route of maritime trade, which skirts the Asia Minor shores, see Roebuck 1959, 6-7. Cf. also Debord 1999, 9-10. The destruction of Melia by the coalition of interests of Samos and the region's cities, Miletos, Priene and Kolophon, gave Samos the opportunity of securing the occupation of Anaia, the subsequent Samian *peraia* in the Asia Minor littoral, which was to be the island's breadbasket (see in relation also *IG* XII,VI 172). However, this promised land was to become in later centuries the apple of discord between the Samians and the Milesians and Prienians, with dire consequences and bloodshed, in continual conflicts until the reign of Augustus [See thoroughly U. Fantasia, "Samos e Anaia", *Serta Historica Antiqua* 15, 1986, 113-143; Shipley 1987, 29-37; Debord 1999, 268 ff.].

⁴ Pottery from Samian workshops is attested at Al Mina (Ugarit) as early as the 8th c. BC. See Boardman 1999, 49.

⁵ Coldstream 1977, 132-133 and 254.

⁶ Shipley 1987, 55.

around 630 BC, in the western Mediterranean and to *Tartessos with silver vein*, whence the intrepid Samian seafarer returned with fabulous riches, the "tithe" of which, according to Herodotus (4. 152), he dedicated to the patron goddess of the island, evoking boundless admiration even in the time of the Father of History. Among his offerings was a bronze cauldron of monumental dimensions, perhaps indeed, as some scholars believe, his ship, supported on a row of stone bases which were discovered close to the large altar of Rhoecus⁷. And whereas the elegant ivory combs, products of western Phoenician workshops in the Iberian Peninsula (Andalusia), dedicated to the goddess⁸, may be related to the mariner's adventure, the hypothesis that Colaeus perhaps ventured as far as the south coast of England (Cornwall) in search of tin, essential for the production in his homeland of the bronze artworks renowned *par excellence* in the Archaic world, remains unconfirmed⁹.

Nonetheless, it is certain that involvement with bronze-working was particularly intensive on Samos already from the first half of the seventh century BC, and continued to develop until at least the end of the sixth century BC, as is validated by the finds from excavations both in the Heraion and the city: Late Geometric bronze fibulae and stone moulds for their manufacture, as well as scorae from workshops and waste materials from craft-industrial installations¹⁰.

The expansion of the commercial activity of Samos towards other, less traditional markets, led to the founding of trading colonies in the Thracian Chersonese (Perinthos, Heraion Teichos, Bisanthe), strong points of penetration into the region's hinterland, upon the sea lanes to the Euxine Pontus¹¹. Concurrently, the Samian presence was consolidated in the Nile Delta, where a thriving colony was established at Naukratis (with a sanctuary of Hera, branch of the Heraion on Samos [Herodotus 2, 158]), an emporium that Amasis had conceded to the Greeks in order to boost reciprocal economic transactions. The dense commercial contacts, always two-way, with Cyprus, Phoenicia and regions of the Near East on the one hand, Libya, Etruria and the Iberian Peninsula on the other, the relations with Laconia, Corinth and the city of Athens, are indicated by numerous finds on the island and beyond, and are verified by epigraphic texts and literary testimonies: precious votive offerings in the Heraion, dedicated by widely-travelled individuals who had

⁷ Kyrieleis 1981, 88-90, fig. 65.

⁸ B. Freyer-Schauenburg, "Kolaios und die westfoenizischen Elfenbeine", *MM* 7, 1966, 89 ff. Kyrieleis 1981, 32, fig. 19.

⁹ Walter 1990, 88, fig. 98.

¹⁰ Jantzen, *Samos VIII* 1972, 92-95. K. Τσάκος, *ADelt* 28, 1973 (1977) B2, 530-533.

¹¹ Boardman 1999, 241.

journeyed even to the distant East, grave goods in the cemeteries and votive offerings in the city's sanctuaries, coming from the remotest parts of the then-known world, bespeak the wealth and underline the multicultural character of Samian society¹².

The influx of wealth from mercantile activities, the incomes from piratical operations, mainly in the first half of the sixth century BC, the development of the Heraion into an important temenos¹³, the artistic advancement of the local sculpture, metal-working, pottery-coroplastic workshops¹⁴, soon secured Samos an important position in the Hellenic world of the Archaic period. Nonetheless, whereas artistic output is represented admirably by the first large temple and the altar of Rhoecus, as well as by the plethora of marble korai and the frequently colossal kouroi in the Ionian style¹⁵, the prosperity of the sanctuary is not reflected in the very few –so far– hoards of electrum coins from Samos itself and the adjacent Asia Minor

¹² H. Walter, "Aegyptische und Orientalische Funde aus Brunnen G und dem Bothros", *AM* 74, 1959, 35–42. H. Walter, "Orientalisches Kultgeraet", *AM* 74, 1959, 69–74. G. Kopcke, "Heraion von Samos, Die Kampagnen 1961/1965 im Sudtemenos (8.–9. Jhd.)", *AM* 83, 1968, 250–314, pls 87–138). Schmidt, *Samos* VII 1968. Jantzen, *Samos* VIII 1972. H. E. Isler, "Etruskischer Bucchero aus dem Heraion von Samos", *AM* 82, 1967, 79–88. Isler, *Samos* IV 1978, 88–138, nos 105–428. K. Tsakos, *ADelt* 34, 1979 (1987) B2, 353, pl. 161 α–δ (West Cemetery). C. M. Stibbe, "Lakonische Keramik aus dem Heraion von Samos", *AM* 112, 1997, 25–142. M. Pipili, "Samos. The Artemis Sanctuary: The Laconian Pottery", *Jdl* 116, 2001, 17–102. M. Pipili, "Lakonische Vasen aus der Westnekropole von Samos: Ein erneuter Blick auf alte Funde", *AM* 119, 2004, 91–104. K. Tsakos, *ADelt* 34, 1979(1987) B2, 354 ff., pls 273–274 (Artemision) [see also *ADelt* 35, 1980 (1988), B2, 460–464. *AAA* XIII, 1980, 305–318]. M. Marthari, *ADelt* 37, 1982 (1989), B2, 351–352, pls 232–233 (cemetery at Klima). I. Kilian-Dirlmeier, "Fremde Weihungen in griechischen Heiligtuernern vom 8. bis zum Beginn des 7. Jahrhunderts v. Chr.", *Jahrbuch des roemisch-germanischen Zentralmuseums*, 32, 1985, 235–243, 248–253, accumulates the evidence in a thorough catalogue enriching her article with documented distribution maps.

¹³ In 525 BC two Samians, colonists of Perinthos, dedicated in the Heraion gifts to the goddess, of value «διηκοσίων δυωδέκων στατήρων σαμίων» [two hundred twelve Samian staters] (*IG* XII, VI, 577). The Perinthians' gifts were: a gold Gorgo, a silver Siren, a silver bowl, a bronze lamp-holder: Barron 1966, 18. For the diverse provenance of gifts and dedicators, see also Walter 1990, 115 and 148, fig. 168).

¹⁴ Research attributes to Samos some of the products of the Fikelloura class (Boardman 1999, 124 and Walter-Karydi, *Samos* VI, 1 1973), which finds from recent excavations on the island confirm: K. Tsakos, *ADelt* 34, 1979 (1987) B2, 353 ff. Moreover, unpublished moulds for terracotta figurines of Archaic korai, from the Thesmophorion, of high artistic quality, bear witness to the production of coroplastic works, many of which are identified not only on Samos but also in some of the panhellenic sanctuaries, such as the Heraion on Delos: Laumonier, *EaDelos* XXIII, 1956.

¹⁵ Freyer-Schauenburg, *Samos* XI 1974.

littoral, perhaps because the economy was not fully monetarized, as it would be later.

To what extent the presence of Samian coinage (electrum issues) in hoards of the second quarter of the sixth century BC (according to most recent research), almost exclusively from places on the island or in geographical horizons visible from the island –and always regions of Asia Minor that were the *Lebensraum* or *peraia* of Samos (hoards: west Asia Minor: *CH IX*, 341, Priene: *IGCH* 1157=*CH IX*, 339, Samos: *IGCH* 1158=*CH IX*, 340)–, constitutes also proof of economic robustness, especially during the "tyranny" of Syloson I, remains a desideratum of research. Nevertheless, it was in this period that the great building and artistic activity is observed. However, the disruption caused in the wider area by the Persians' dissolution of the kingdom of Lydia, will have played a significant role and contributed to the intensification of concealments¹⁶.

Legendary for its wealth and magnificent buildings, the tyranny of Polykrates (538 or 532–522 BC) was for Samos at once the zenith of its heyday and the beginning of its decline. The Eupalinion Aqueduct, with the *double-mouthed channel* of Herodotus (3,60) –work of Eupalinos son of Naustrophos from Megara–, the impressive manmade mole in the city's harbour and the great temple of Hera, most probably accompanied their contemporary fortification of ancient Samos with a monumental wall of polyhedral limestone blocks crowned by an upper structure of mud bricks¹⁷. Concurrently, Polykrates had a mighty navy of 100 penteconters (Herodotus 3,39) and 1,000 archers, as well as the possibility of employing foreign mercenaries. The tradition of Polykrates' mastery of the sea (Herodotus 3,122)

¹⁶ Concerning the need for coinage generally in Archaic times, R. M. Cook, "Speculation on the Origins of Coinage", *Historia* 7, 1958, 257–262, followed by M. Price, "Thoughts on the beginnings of Coinage", in *Studies in Numismatic Method presented to Philip Grierson*, Cambridge 1983, 5–8, believed that the first coins of electrum were issued to pay mercenaries –a view which justifies unilaterally the phenomenon. Of course, it goes without saying that these particular coins had exchange value in the local societies in which they circulated, and that primarily they served mercantile needs. Needs which, according to Le Rider 2001, 74, were in no way related to international trade. The local character of electrum issues and the absence of their distribution outside the place of production is also attested by the fact that isolated examples of this category are mentioned only from this island itself: Barron 1966, 15, note 3. Although electrum coins ceased to be issued by the mid-6th c. BC at the latest, the hoard from Vourla [Clazomenae] *IGCH* 1167, with date of concealment the decade 500–490 BC, attests their circulation much later.

¹⁷ Kienast, *Samos* XV 1978, 99. Shipley 1987, 93–94 argues that the undertaking of ambitious public works by Polykrates did not aim, as is surmised by Aristotle (*Republic* 1313b), at employing a workforce from the ranks of the indigent, but at ensuring the prosperity of the population and certainly reinforcing their faith in the regime.

refers not only to the tyrant's military strength in the watery element, but also to the predatory operations throughout the Aegean, acts from which the Samians surely gained impressive profits¹⁸.

"Samos, the greatest of all city-states, Greek or other" (*Πολίων πασέων πρώτη, ἑλληνίδων καὶ βαρβάρων*) (Herodotus 3, 139), in its heyday, was to host men of letters of the reputation of an Ibycus and an Anacreon, and was to nurture outstanding artists and scientists: Rhoecus and Theodoros, the mathematician Pythagoras. Indeed, to invigorate the domestic economy and increase yields, Polykrates introduced a new breed of goats from Naxos and Skyros, pigs from Sicily, sheep from Miletos and Attica. The renewal of the domesticated fauna included the import of dogs from Laconia and Epirus¹⁹. The former were good shepherd dogs, while the latter, mastiffs, were excellent hunting hounds²⁰.

However, Polykrates' cunning, his avarice (Herodotus 3,123) and his ploys to gain wealth are revealed by events such as the deception of the Spartans by bribing them with "gilt leaden coins, as a native currency" (Herodotus 3, 56)²¹, to abandon the siege of Samos (525/4 BC). Furthermore, his megalomania (*μεγαλοπρεπείη*; Herodotus 3,125) is linked with his effort to secure by all possible means the renowned artists and scientists of the day. That is why he paid the physician Demokedes a fee twelve times greater than that given him by Peisistratos (Herodotus 3,131).

Despite the lack of numismatic finds from the time of Polykrates, either on Samos or elsewhere, it seems there was no lull in trading activities²².

¹⁸ Kurke 1999, 102 ff. In the view of Barron 1966, 35 the "hektai" were the issues of the early years of Polykrates' government. The issues (drachmas) with the winged boars –Class A I and A II– must have been used to pay mercenaries. As is well known, during the Spartans' siege of Samos, Polykrates deployed mercenaries (*ἐπικούρους*, Herodotus, 3, 54). This hypothesis is boosted also by the ascertainment that the related series are particularly numerous.

¹⁹ Ἀλεξίς *FGrH* 539 F2 παρά Αθηναίωι, *Δειπνοσοφισταί* 12, 540 d-e.

²⁰ Br. Freyer - Schauenburg, "Κύων Λάκωνος - Κύων Λάκαινα", *Ant. Kunst* 13 (1970) 99 and nn 29-30.

²¹ For the gold-plated lead coins [*hypomolybda*] (issue date 525/524 BC), see Barron 1966, 17-18.

²² During the last quarter of the 6th c. BC the Samians' commercial interests seem to have been directed southwards. One destination may have been Cyrene, if we bear in mind the episode with Arkesilas III (530-510 BC) and the assistance the island offered him during his exile (Herodotus, 4,161 ff.). Pharaonic Egypt must have been another pole of attraction for the cargo ships, as is surmised from study of the coin hoards. Moreover, the fact that Samian drachmas of Class B type (issue date: 510-500 BC according to Barron 1966, 34-36 and 172 ff.), as is deduced, were the model for the Carian staters with similar iconography to these, corroborates this hypothesis: Barron 1966, 39. According to Debord 1999, 38, who summarizes previous research, "between 535 and 480 BC the amphorae circulating in trade basically come

Classical Period

The pervasive uncertainty on Samos after the assassination of Polykrates²³, perhaps justifies the presence of a considerable number of Samians (refugees?) in Athens towards the end of the sixth and the beginning of the fifth century BC, as is deduced from a series of grave stelai (*IG* XII,VI 892-894, 896).

Despite the political instability on the island and the repeated Persian interventions, which certainly had repercussions for the economy, Samos on the eve of the outbreak of the Ionian Revolt, in the early fifth century BC, was without doubt a power to be reckoned with, not least because of its 60 warships. With these vessels it played an active role in the founding of the Delian League in 478 BC, and for precisely this reason was exempted from paying tax.

The catalytic defeat of the Ionian allies at Lade in 495 BC, and the prevailing of the Persians, resulted in the restoration of the tyrant Aiakes to power on Samos and the consequent expulsion of the oligarchs to Zancle (Herodotus 6,6-7, 22, 25). However, three years later, Mardonius restored the democrats. Although it is still not known to what extent the Samians were active in operations at Marathon (490 BC), what is certain is that the island was an anchorage for the Persian navy of 600 warships (Herodotus 6, 95 and 98.1). Samos also sided with the Persians during the second leg of the campaign (480-479 BC), providing a force of 100 ships.

During the Ionian Revolt, works at the Heraion were interrupted. They were resumed after the naval battle of Lade and continued without problems until 470 BC²⁴. This period seems to have been one of economic affluence for Samos²⁵.

According to the evidence of the coin hoards, in these years the mercantile transactions with Greece, the Middle East and Egypt, which had been characteristic of Archaic times (artefacts, pottery, etc.), were concentrated and restricted solely to the southeastern Mediterranean: silver replaced electrum and the small denominations of the early hoards gradually gave way to tetradrachms and drachms, particularly as the first quarter of the

from Chios and Lesbos, without the related production from Samos and Miletos lagging behind".

²³ In 521/520 or probably 520/519 BC, Maiandrios, usurper of Polykrates' power, was pursued by Darius, who at first installs Polykrates' banished brother, Syloson II. As the conflicts developed, the satrap Otanes, ignoring Darius' order for a bloodless intervention, went ahead with destructions and slaughter of hundreds of Samians, which Darius replaced by settling incomers on Samos (Herodotus, 3,149).

²⁴ H. Kyrieleis, "Das Hera - Heiligtum auf Samos" *Mannheimer Forum* 81/82, n.d., 157.

²⁵ This view is advocated by the coin hoards from the coasts of Syria and Egypt, with date of concealment in the interval 490-460 BC.

fifth century BC drew to a close. And while the Samos mint is represented, albeit by samples, in the content of hoards of the period, the presence of imported products on the island is strangely limited.

The island's autonomy came to an end in 439 BC, when the Samians, surrendering to the siege by the Athenian navy, under the command of Pericles –consequence of his support for the Milesians in yet another conflict over Anaia–, were forced to demolish the fortifications raised by Polykrates, to pay reparations of 1,200 talents (Thucydides 1,117. Plutarch, *Pericles* 26–28), to receive Athenian cleruchs and to hand over the fleet, the neutralization of which was, of course, the principal cause of the Athenian intervention²⁶. During Pericles' siege of Samos (440–439 BC) the local opposition was reinforced by 700 mercenaries, most probably in the pay of Persia, the island's ally at that time.

This was the beginning of the end for the great and proud island, which according to the calculations of J. Beloch, had a population of some 60,000 persons at this time (440 BC)²⁷.

The political and economic decline of Samos from 439 BC onwards is reflected especially in the Heraion: works on the big temple progressed at snail's pace, while striking is the rarity of sculptures of the Classical period. Striking too is the dearth of small votive offerings and pottery²⁸.

Excavation data from the ancient city present the same picture.

Even so, the very few Classical vases from Athenian workshops, which were grave goods in a terracotta sarcophagus found outside the organized cemeteries of ancient Samos²⁹, as well as a significant number of sherds recovered from excavations in the city, perhaps indicate that the island's

²⁶ According to Barron 1966, 92–93 the Class VII of tetradrachms was also the last to be minted on Samos, since in 440/439 BC the island was captured by the Athenians (Barron 1966, 81). Class VIII –at least the tetradrachms bearing the inscription ΕΠΙ ΒΑΤΙΟΣ– must not have been issued much earlier than 412 BC, while that part of it with the letter Α, must have been minted in Anaia by the exiled oligarchs (430 BC). In both cases the production was extremely limited. For a different interpretation of these particular issues, as well as a reconsideration of the chronological sequence of the coin series of Samos during the 5th c. BC, see Figueira, 1998, 166–174.

²⁷ See *PWRE Samos* (4), col. 2181 (Buerchner). Kienast, *Samos* XV 1978, 10, estimates for the city alone a population of 15–20,000, while Roebuck 1959, 22 estimates the population of the island as 48,000 and certainly not less than 36,000.

²⁸ Kyrieleis 1981, 49.

²⁹ V. Giannouli, *ADelt* 43, 1988 (1993), B2, 486, pls 290–291 (Kampos of Chora, Papavangelinos site).

economy was not inward-looking³⁰, at least for the pro-Athenian sector of the population.

The situation worsened about one hundred years later and certainly after the sufferings of the Peloponnesian War, which plunged Hellas into a bloodbath, overturning the *status quo*. Samos, having spent periods under the domination of Athenians, Spartans and Persians, had refused to join the new Athenian League (cf. Debord 1999, 283: 384–377 BC), headed by an Athens though less despotic than that of the fifth century BC. As a consequence of this policy, the city was again to experience the sufferings of siege, this time by the Athenian general Timotheos son of Konon. It was captured³¹ and its inhabitants, at least those who did not comply (Debord 1999, 293–294), were driven into exile, which was to last many years, abandoning their tillable fields to the new wave of cleruchs who inundated the island. The dispersal of refugees is detected as far as Sicily in the West and Caria in the South³². Many remained in waiting, in the Samian *peraia*.

The fact that the siege of the city lasted several months was obviously due also to the fortification, which although demolished in the time of Pericles was quickly reconstructed in 412/11 BC by the soldiers of General Phrynichos (Thucydides VIII, 50–51). Even though the interventions in the third century BC make it difficult to identify exactly the remnants of the restoration of the

³⁰ See K. Tsakos, *ADelt* 22, 1967, B2, 463, pl. 339α (I. Solounias plot) and *ADelt* 24, 1969, B2, 385–386, pl. 389 β (E. Koureris plot). The island's robust coinage during the first half of the 4th c. BC is manifested by the hoard Caria / 1977 [*CHIX*, 387] (date of concealment 390–385 BC), with 24 Samian tetradrachms and 14 triobols of this mint. According to Debord 1999, 277, the series of silver issues with the inscription ΣΥΝ (μαχικόν) on the obverse, on which was a representation of Herakles strangling a serpent ("Drakonopnigon" –common for the cities of Byzantion, Cnidus, Ephesus, Iasos and Samos), should not be correlated with the presence of Lysander in the East Aegean, as had been suggested by S. Karwiese, "Lysander also Herakliskos Drakonopnigon", *NC* 1980, 1–27. However, the testimony of the hoards refutes him.

³¹ The capture of Samos not only aimed at the possession of island of particular strategic importance, but also foresaw the exploitation of the wealth of the land. Telling are the remarks by Polyainos (3.10.5) regarding the policy of Timotheos, who, still during the siege, issued a strong warning to his mercenaries, in order to avoid any looting or destruction of houses, or the uprooting of fruit trees. Thus he would secure the necessary resources to feed his army. For the period, see Gr. Karla, «Αθηναϊκή Κληρουχία στη Σάμο τον 4^ο αι. π.Χ.», *Σαμιακές Μελέτες* 2, 1995–1996, 7–26. These difficult moments is hidden the hoard *IGCH* 1208, comprising exclusively 3,000 bronze coins of Samos. For the situation on the island before and after 365 BC, see Debord 1999, 290–294.

³² Shipley 1987, 161 ff. Cf. also Debord 1999, 294, note 141 with bibliography.

walls in the late fifth century BC, this was surely carried out in the west part of the fortification on the side of the plain³³.

From the very rare lion head/Athena Promachos ΣΑ tetradrachm of 360/59–340 BC, in the hoard CH IX, 421 and p. 218, no. 25, in conjunction with the conclusions drawn by K. Hallof and Chr. Habicht³⁴ from study of a Samian inscription (date 352–348 BC), it is ascertained that in this particular period Athenian cleruchs and Samians coexisted on the island, and indeed not as two separate communities (cf. CH IX, p. 220). This was the reason why Barron³⁵, notwithstanding the contrary opinion of Aristotle (fr. 611.35) and Diodorus (XVIII 18.9), accepted the hypothesis that the Samians' evacuation of their island in 366/5 BC was probably not total. So, this particular tetradrachm is proof of the existence of a quasi-autonomous Samian community, living alongside and in a relationship of vassalage to the Athenian lot-holders who had settled on Samos³⁶. Whatever the situation was, however, the absence of essentially important excavation data on the economy of the period –both of the incomers and the locals– leaves little leeway for speculation. Irrefutable evidence of a general degeneration is that the grave monuments of the cleruchs –chance finds in the countryside around Chora– are, with very few exceptions, usually groups of plain stelai bearing no decoration other than the inscription of the deceased's nomen, patronymic and tribe³⁷.

Hellenistic Period

The lack of information observed for the preceding period, also obtains for the early decades following the *descent* after 320 BC, when a mass yet gradual return of the exiles is observed, in response to the decree of Alexander the Great (324 BC). Well-known and touching in their spontaneity are the Iasians' moves to exempt the many Samians in their city from the tax on exporting their moveable property, when going back to their homeland, as well as the Spartans' gesture of offering financial assistance from the income

³³ K. Tsakos, «Σάμος, Αρχαία πόλη: νεώτερα από το δυτικό μέτωπο της οχύρωσης», *ΓΕΝΕΘΑΙΟΝ*, Athens 2006, 295–303.

³⁴ "Buleuten und Beamte der Athenischen Kleruchie in Samos", *AM* 110, 1995, 273–304.

³⁵ "Two Goddesses in Samos" in R. Ashton et alii (eds), *Studies in Greek Numismatics in Memory of Martin Jessop Price*, London 1998, 23–36.

³⁶ The theory of the presence of Samians on the island even after the installation of the cleruchs is reinforced by the case of the use of the ethnic Samian in an Athenian inscription from Eleusis (*IG* II, 2, 1672: Date 329 BC), according to which the Samian Archias, permanent resident of Samos, appears as a seller of local timber for the needs of the Telesterion.

³⁷ *IG* XII, VI, 261–276.

Chart of hoards cointaining issues of Samos

[illegible]

Syria/1978-1979=Antilibanos/1978 (?): CH IX, p. 211

*RN 1997,121-135

** CH IX, p.199-200

****Samos: 1 AR+46 AE**

(+) Samos and other Mints

accrued from a one-day fast, to which everyone voluntarily subscribed. To these was added the loan of one thousand gold staters, from the Milesian Sosistratos son of Phanodikos (*IG XII*, VI 37) and the generosity of Gyges from Torone, who sold to the repatriated Samians 3,000 bushels of grain at below cost price (*IG XII*, VI 46)³⁸.

The presence of Samian coins in fourth-century BC hoards that were concealed prior to the Athenian occupation –certainly slightly more numerous, by case, than in hoards of the fifth century BC– is noted as a rule in parts of western Asia Minor, in particular Ionia, Caria and Cilicia. However, as a result of secondary handling of money and brokerage, the new issues of Samos (the majority tetradrachms on the Rhodian weight standard, 400–365 BC) occur in savings or collecting hoards at sites in the interior of the Achaemenid Empire. But now there is also a proliferation of coin hoards from Samos itself, which is due to the important events that took place on the island in this interval. Regardless of the reason for their concealment, these hoards are testimony of the circulation of silver and bronze coins on Samos.

Until the end of the Classical period, the island's mercantile dealings with the Hellenic –and not only– world included exports, possibly of consumables (olives, almonds, timber for house- and shipbuilding, perhaps also wine)³⁹, but above all of olive oil, the quality of which was renowned⁴⁰. For example, from the fourth century BC the city of Athens imported considerable quantities of olive oil from Samos, presumably to supplement local production. It is reasonable to assume, of course, that these imports should be associated with the Athenian cleruchs. On the contrary, Egypt seems to have been a long-standing importer of both Attic and Samian olive oil, as attested by the Samian amphorae found at Naukratis and Daphnae, dated to the sixth and fifth centuries BC⁴¹.


³⁸ See in general Shipley 1987, 208 ff.

³⁹ Famed in Antiquity and an export product was the so-called "Samian earth" (Theophrastus, *On Stones*, frg. II, 9ζ. 63 ff.), which had a wide range of uses, such as in tanning, in washing textiles, in polishing weapons, etc. (Toelle-Kastenbein, *Samos XIV* 1974, 8 ff.). Many trenches for extracting "Samian earth" have been identified in excavations, both in the city and in the Kastro /Astypalaia: K. Tsakos, *ADelt* 28, 1973 (1977) 537–540, plan 10 (left) (Yannopoulos plot). In general for the exports, see Coldstream 1977, 246. Among the island's income should be included also benefits from providing services (mercenaries for third parties, Shipley 1987, 85), as well as profits from transit trade.

⁴⁰ V. Grace, "Samian Amphoras", *Hesperia* XL, 1971, 80, note 70.

⁴¹ Grace 1971, 81–82. The particular dynamism of Samian trade during the 4th century BC is also borne out by the host of amphorae from the island in the El Sec shipwreck off the Spanish island of Mallorca: Klavs Randsborg, "Greek Peripheries and Barbarian Centres: Realities and Cultural Responses", in P. Bilde et alii (eds), *Centre and Periphery in the Hellenistic World*, Aarhus 1996 (2nd edn), 92.

Undoubtedly, the fact that the number of stamped Samian amphorae, both from the Heraion⁴² and from the ancient city, is relatively limited, reinforces the hypothesis that amphorae of this class were intended primarily for exports obviously of olive oil, given that Samian wine, as is known from the sources, was not particularly appreciated in foreign markets (Strabo XIV, 637: *The island does not produce good wine*. Cf. Pliny, *NH* XVI, 177)⁴³. Stamped handles of Samian amphorae have been found at Shikmona near Haifa in Phoenicia, as well as on Cyprus, in a closed ensemble with four posthumous coins of Alexander of the late fourth century BC⁴⁴.

As far as the imports of Samos are concerned, an appreciable number of transport amphorae for wine, of the fourth/third century BC, as well as of later date (2nd c. BC), from Rhodes (approx. 70% of the total), Kos and Knidos, Chios and Sinope, Paros and Thasos, finds recovered from excavations of houses and shops in the ancient city⁴⁵, indicate the inhabitants' needs for good quality wine. The many bowls (skyphoi) with relief decoration, from various East Greek workshops (of Menemachos, "of Monogram: , etc.)⁴⁶, from houses and deposits (*apothetai*) in the city, as well as the ornate braziers of diverse provenance, mainly from the workshops of Hekataios (EKATAIOY) and Nikolaos (NIKOΛΑΟΥ) (late 2nd-early 1st c. BC)⁴⁷, should be considered as imported luxury vessels. The local consumers' demands were additionally satisfied by the production on Samos of similar skyphoi, often of very high quality, in moulds that were either imported from other cities (mainly Ephesos), or made *in situ*, as was always the case in the past.⁴⁸

The return of the Samians from exile initiated a period of independence (322-205 BC), even though the island was under the influence of the powerful

⁴² Grace 1971, 61. Cf. also Furtwaengler, Kienast, *Samos* III 1989, 101-104.

⁴³ In general for relations between Samos and wine see the contributions by K. Tsakos and V. Giannouli in *Σάμος, η κυρά των αμπελιών*, publ., Samos Cultural Foundation "N. Dimitriou", Athens 2000.

⁴⁴ V. Grace, *Kouriaka, Studies presented in Memory of Porfyrios Dikaïos*, Nicosia 1979, 178-188.

⁴⁵ Grace 1971, 61, note 25.

⁴⁶ K. Tsakos, «Μήτρες για την κατασκευή ανάγλυφων σκύφων από τη Σάμο», *Γ' ΕλλΚερ.* (Athens 1994), 294-301, pls 229-232; K. Tsakos, «Κεραμική από ένα σαμιακό αποθέτη της ύστερης ελληνιστικής περιόδου», *Λεύκωμα, Δ' ΕλλΚερ.* (Mytilene 1994) 146-163, pls 1-12.

⁴⁷ K. Tsakos, *ADelt* 28, 1973 (1977), B2, 527, pl. 497στ. (Ch. Plataniotis plot).

⁴⁸ For kilns, see Yannopoulos plot, op. cit. note 37.

figures who held sway during various phases of the wars between the Successors to Alexander the Great⁴⁹.

Demetrios Poliorketes, Lysimachos of Thrace, the Ptolemies of Egypt, the Seleucids of Syria; all left their trace on the local history. The reconstruction of the city walls, most probably by Demetrios Poliorketes, with regular isodomic masonry and the addition of towers, consistent with the new principles of fortification, is dated to the dawn of the new age⁵⁰. The planning and the commencement of construction of the enormous athletics complex in the southwest corner of the walled city, with a stadium, gymnasium and palaestra, should be included in the same project⁵¹. In a period of upheavals for the city, a fundamental benefaction of this magnitude not only provided security and smooth functioning of the institutions, but also surely created welcome jobs. The excavation data suggest that in this period an effort was made to renovate the neglected sanctuaries, to improve the infrastructure amenities, such as the Eupalinian Aqueduct (numismatic testimony: 321–281 BC) and to enliven the city generally⁵².

The city secured additional incomes, for at least the next one hundred years, from the use of its harbour as a naval station of the Ptolemies⁵³. The very few sherds of faience vases⁵⁴ in the area of the lower city are obviously not the only indicators of this. The long period of peace, in which close relations developed with Alexandria, created preconditions for coming out of the economic straits, by offering many Samians employment opportunities in

⁴⁹ Monetary affairs on the island during the first decades after the decree of Alexander III are reflected by the hoards IGCH 1213 and Samos (ancient Gymnasium) 2001: M. Viglaki, I. Touratsoglou, *Οβολός* 9 (to be published 2008).

⁵⁰ Kienast, *Samos* XV 1978, 97.

⁵¹ K. Tsakos, *ADelt* 34, 1979 (1987), B2, 355–357. K. Tsakos, «Προβληματισμοί γύρω από ένα βωμό», in *Studies presented to I. Touratsoglou* (to be published). Martini, *Samos* XVI, 102 suggests, nevertheless, a Ptolemaic initiative through the intermediary of the admiral Kallikrates son of Boiskos (as in the case of Altis at Olympia), a hypothesis which is not to be excluded. In implementing works to improve the appearance of the city and the Heraion (continuation of work on the large temple), taking initiatives to bolster the citizens' living standards (corn law), as well as in confronting all manner of state expenses for promoting the island abroad (representation of Samos at the celebrations in honour of Ptolemy III and Berenice II), the private sector played a decisive role through the institution of benefactions (*euergetiai*): Shipley 1987, 189 and 200 ff.

⁵² K. Tsakos, *Samos. Historical and Archaeological Guide*, Athens 2003, 43–45 (Aphrodision, Dionysion, Thesmophorion).

⁵³ Shipley 1987, 181 ff.; see also V. Gianouli, K. Tsakos, "Samos antique (Pythagorion). La ville et le sanctuaire à l'époque hellénistique et au début de l'époque romaine: Découvertes archéologiques et histoire", in *L' Orient Méditerranéen de la mort d' Alexandre au 1^{er} siècle avant notre ère*, Nantes 2003, 152–153.

⁵⁴ K. Tsakos, *ADelt* 28, 1973 (1977), B2, 527 (Ch. Plataniotou plot).

the Egyptian capital. In fact, some Samians held high office in the bureaucratic hierarchy (Kallikrates son of Boiskos) or distinguished themselves by their scientific achievements, while others enjoyed success in the Arts and Letters (Asklepiades *et alii*)⁵⁵.

Light is shed on one aspect of the trading relations between Samos and Egypt by a papyrus of 259 BC, which refers to a consignment of olive oil dispatched to Alexandria in Milesian and Samian amphorae⁵⁶. Ptolemaic Egypt was certainly not the exclusive importer of Samian olive oil in these times: the presence of stamped amphora handles in Kos, Pella, Therme, the Athenian Agora, Nymphaion in the Cimmerian Bosphoros, Cyprus and ancient Smyrna⁵⁷, delimits the geographical distribution.

The circulation of merchandise naturally accompanies that of persons, in a two-way relationship. It was at this time (3rd-2nd c. BC) that a fair number of aliens settled on Samos, originating as a rule from the wider region of Asia Minor (Karyanda, Kaunos, Miletos, Ephesos, Magnesia ad Meander, Kolophon, Kyzikos), as well as from the Greek Mainland (Arcadia, Epirus). Many of them died on the island (see *IG XII.VI* 675-762 *passim*), but unfortunately the epigraphic texts on the grave monuments are so terse that it is not possible to determine the professions.

Nonetheless, the participation of aliens in the island's affairs is evidenced by the fact that some young male incomers, whose families had been incorporated in local society, took part in the monthly athletics contests in the city's gymnasium (*IG XII.VI* 182: Ephesian, Alexandrian).

With regard to the presence of Samians in the rest of the Hellenic world, impressive during the fourth century BC is the number of grave stelai from Athens and the Piraeus (*IG XII.VI* 898-899, 900, 903-905, 907, 908, 909 and 910). In this period fewer Samians seem to have died elsewhere (Paros: *IG XII.VI* 901, Magnesia ad Meander: *IG XII.VI* 906). In the period that followed (3rd-1st c. BC) the Samian's mobility turned towards the east Aegean, where they had obviously concentrated their mercantile interests, as grave stelai from Chios, Kos, Syme, Rhodes and Lindos (*IG XII.VI* 914-922) confirm. The list is completed, of course, by all those Samians of Alexandria, as well as of other regions abroad, which are mentioned in literary sources.

⁵⁵ Shipley 1987, 224 ff.

⁵⁶ C.C. Edgar, *Zenon Papyri*, I (Catalogue général des antiquités égyptiennes du Musée du Caire), Cairo 1925, no. 59015 (recto).

⁵⁷ Grace 1971, 55. See also M. Tiverios, «Οι πανεπιστημιακές ανασκαφές στο Καραμπουρνάκι Θεσσαλονίκης», in N. Stampolidis and A. Giannikouri (eds), *Το Αιγαίο στην πρώτη εποχή του σιδήρου*, Αθήνα 2004, 297.

The plethora of bronze coins, mostly of the Samian mint, issued in the interval 205–129 BC, recovered from excavations in the residential nucleus of ancient Samos, as well as from grave ensembles, bears witness to the intensive activity in the domestic economy and certainly to a growing affluence and a monetary economy which extended to all zones of the city: the residential, the craft-industrial, the commercial, and so on. This thriving economy was clearly due to international conditions of normality, from which Samos benefited especially, first with the Ptolemies and then with the Rhodians⁵⁸.

The comparatively small quantities of bronze coin issues of certain cities in Asia Minor, found in the settlement nucleus and among the grave goods, although not supporting an external contribution to the more general development, probably indicate movements of persons rather than circulation of goods. Notable, however, is the almost total lack of single coins of noble metal. The very few silver coins of Rhodes, brought to light in excavations in the city and the graves, are justified by the presence of the Rhodian fleet; Samos was under the protection of Rhodes after the defeat of Philip V (197 BC)⁵⁹.

During the second half of the second century BC, a significant revitalizing of trade –maritime in this case– is observed, particularly along the west coast of Asia Minor, as far as the harbours of Syria and Phoenicia, with the interpolation of Cyprus. The shipwrecks in various places, but also the coin hoards of the crew and the cargoes of amphorae, contribute to reconstructing the specific sea route, with the intermediate ports of call for conducting transactions and replenishing supplies of consumables or merchandise. The ordinary vessels of diverse provenance used by the seamen,

⁵⁸ Splendid architectural example of the wealth and extravagance of the city's prosperous inhabitants during the 2nd c. BC, with Rhodian influences at least in the decoration of the tessellated pavements, is the monumental building "of the lion-griffins" in the area of the Upper City: V. Giannouli, «Ανασκαφή κτιριακού συγκροτήματος ανακτορικού τύπου στο Πυθαγόρειο Σάμου», *Πεμπτουσία* 1, 1999, 68–77; V. Giannouli, K. Tsakos op. cit., 166–168. The coin evidence supports the proposed dating. We thank the excavator for allowing us to refer to this material.

⁵⁹ In 201 BC Philip V captured the island in a surprise attack. In 197 BC, however, Samos is included among the *civitates sociae Ptolemaei*. Shortly before the end of the Second Macedonian War, in 197 BC, the Roman governor, Flamininus, permitted Rhodes –ally of Rome– to undertake the "protection" of Samos, together with that of Halikarnassos, Kaunos and Mynodos. From 190 BC onwards Samos was successively a naval station for the fleet of Rome, of Rhodes and of their allies. The island seems to have been under close dependence first of Rhodes and then of Rome, for over a century, with sole exception the short-lived conquest by Pergamon, in the time of Aristagoras' revolt. Barron 1966, 153.

demonstrate the daily and the occasional transactions of the ship's crew in the course of its successive entries into ports⁶⁰.

Concerning the hoards, the majority now of bronze coins, their multi-selective character and the chronological span of the individual component issues corroborate the hypothesis that they were probably the personal money of a captain or a voyager-pilgrim-merchant, who travelled by sea from the area of the Hellespont, Lesbos, Samos and Rhodes as far as Cyprus and Ashkalon in Phoenicia.

Witnesses to a similar mobility, which was presumably much the same in earlier periods, are the hoards of this period from the environs of Smyrna (Izmir 1936: date of concealment 200 BC), Miletos (temenos on the Sacred Way to Didyma: date of concealment 75 BC), Ashkalon (Ashkalon / 1988: date of concealment 100 BC), as well as the grave hoard from Samos (Samos, Kavο-Phonias, cist grave 2: date of concealment 130 BC), common element of which is Samian issues. Also included in this category is the hoard of 100 BC, in an amphora from a shipwreck off the coast of Haifa⁶¹.

Society and economy: appraisal over time

The co-examination of coin finds and excavation data presents an interesting picture that touches on the island's domestic economy and trading relations during the period under discussion⁶²:

1. In the sectors of manufacturing activities inside the city, coins of Samos, mainly bronze, are the overwhelming majority, which leads to the hypothesis that any transactions between citizens or residents from elsewhere were conducted only in local coinage. The 3,000 Samian bronze

⁶⁰ This diversity, due to the renewal of the household equipment and the supplies (olive oil, wine, etc.), which had either become useless or had in the meanwhile been consumed, is illustrated vividly in the *skeuothēke* of the shipwreck at Mahdia: S. Rotroff, "The Pottery", in G. Hellenkemper Salies (ed.) *Das Wrack. Der antike Schiffsfund von Mahdia*, Koeln 1994, 133–152).

⁶¹ O. Misch-Brandl, E. Galili, "Finds from the Hellenistic period", in *From the Depths of the Sea: Cargoes of Ancient Wrecks from the Carmel Coast*, Israel Museum Catalogue no. 263, Jerusalem, Summer 1985, 12–13. Cf. also Parker 1992, 273, no. 689.

⁶² The recording of the coin evidence from the city itself is based on the one hand on the excavations of the Greek Archaeological Service, in the period 1967–1980/85 (mainly), and on the other on the work of the German Archaeological Institute (DAI), which focuses on the Eupalinion Aqueduct, Astypalaia (Kastro tou Lykourgou) and part of the Heraion. Much needed is the timely and full publication of the coin finds from excavations conducted in recent decades, so that it will be possible to study coin circulation and indeed throughout Graeco-Roman Antiquity.

coins in the hoard *IGCH* 1208 (date of concealment 365 BC), which was most probably hidden inside the city by its owner, during Timotheos' siege of the island, reinforce the picture that the local mint supplied the city almost exclusively with bronze coins, and indeed over time.

2. A different picture is observed in the harbour area and its direct environs, as well as sporadically in some other quarters: in the harbour area, the heavy bronze Ptolemaic coins from the site of the sanctuary of Dionysos(?) and from the commercial sector around the quay annotate the island's use as a naval station and trading agency for Egyptian interests. On the contrary, the certainly small number of issues from elsewhere (Rhodes, Erythrai, Miletos, Ephesos, etc.), found in some of the building *insulae*, is rather testimony of the profession of their owners (captains, merchants, etc.) than proof of the presence of aliens.
3. The so far limited research in the area of Astypalaia, which is reputed to have been the site of the seat of central authority from as early as Archaic times, has not yielded the expected results, at least in terms of numismatic information: neither Samian issues in precious metal have been reported, nor high- or even low-value coins of foreign mints. Of course, the find-spot of the hoards *IGCH* 1158 (date of concealment 560-540 BC), with Samian electrum issues, and *IGCH* 1190 (date of concealment 400 BC), with 40 Samian tetradrachms, remains unknown.
4. The numismatic evidence from the sanctuaries *intra muros* does not seem to differ from the picture offered by most of the residential *insulae* and the loci of craft-industrial activity, a picture of self-sufficiency and introversion, which is probably explained by the local character of cult.
5. The sole exceptions to the rule, which holds also for those spaces characterized as public (agora, gymnasium), are the hoard *IGCH* 1213 (date of concealment 320 BC), and the hoard found in 2001 on the site of the gymnasium, (date of concealment late 4th-early 3rd c. BC): associated with the returning refugees and with a content consisting of silver issues of various mints, these are surely a case of money imported at a given moment and for specific reasons.
6. The statistical data from the necropolises differ essentially, since in several cases the coins to pay the ferryman Charos were not only Samian bronze issues but also, in limited quantity, silver and bronze issues of Rhodes, Ephesos, Athens, Stratonikeia, Lampsakos and elsewhere.

To what extent these imported coins were simply grave goods of the dead, into whose possession they had come in one way or another, or reflect and complement the coin circulation on the island, is difficult to answer.

However, the hoard from cist grave 2 at Kavó Phonias, with its variety of issues and multi-collective character, advocates the first version.

7. Ascribed to the *desiderata* of excavation research is the lack of satisfactory information on farms⁶³, at least in Hellenistic times, when the phenomenon was quite widespread in the ancient world. Perhaps the absence of organized farmhouses and small towns, satellites of the one large urban centre on the island, is the cause for the lack of coin finds from the countryside in the period under discussion.
8. Striking, but for other reasons, is the scant contribution of the Heraion, and indeed only with bronze coins, to integrating the appraisal of coin circulation on Samos. This ascertainment, combined with the general dearth of votive offerings and buildings, which is observed in the sanctuary during Hellenistic times, perhaps signifies the waning of this cult centre's importance and therefore the dwindling of visitors to it.
9. General impression drawn from the diachronic appraisal of the monetary situation on the island is that the numismatic evidence for pre-Classical times is particularly poor, for Classical times extremely selective, while for Hellenistic times abundant, even though coin production was limited to a few types.

Epilogue

With the dawn of the Roman period the political situation on the island was transformed. Authorities and institutions continued to function –typically, of course, and for local matters, since political and judicial affairs were resolved either in Rome, or in Ephesos by the governor of Asia. Principal concern of the local authorities was erecting portrait statues of and honorary decrees for the emperor, generals, senators and members of their families, as for example in the case of Pompey or Cicero, consequent upon a decision of the Boule and Demos of the Samians. The political alertness and immediacy of reaction, which had so helped Samos to survive in Hellenistic times, in the midst of the storms and the rivalries of the Successors, was no longer necessary. Now obedience to and respect for the ruler of the moment and the representatives of Roman power were sufficient for the city to satisfy its needs. After all, Rome herself reinforced these tendencies by granting the right of Roman citizenship to the local aristocracy or by conferring priestly office, especially of the cult of the emperor, on eminent members of Samian society. In the

⁶³ Exception is the rural complex at Keramidia in the village of Mavratzaioi, with black-glaze pottery of the late 4th c. BC (coin evidence): E. Zervoudaki, *ADelt* 31, 1976 (1984), 341–342.

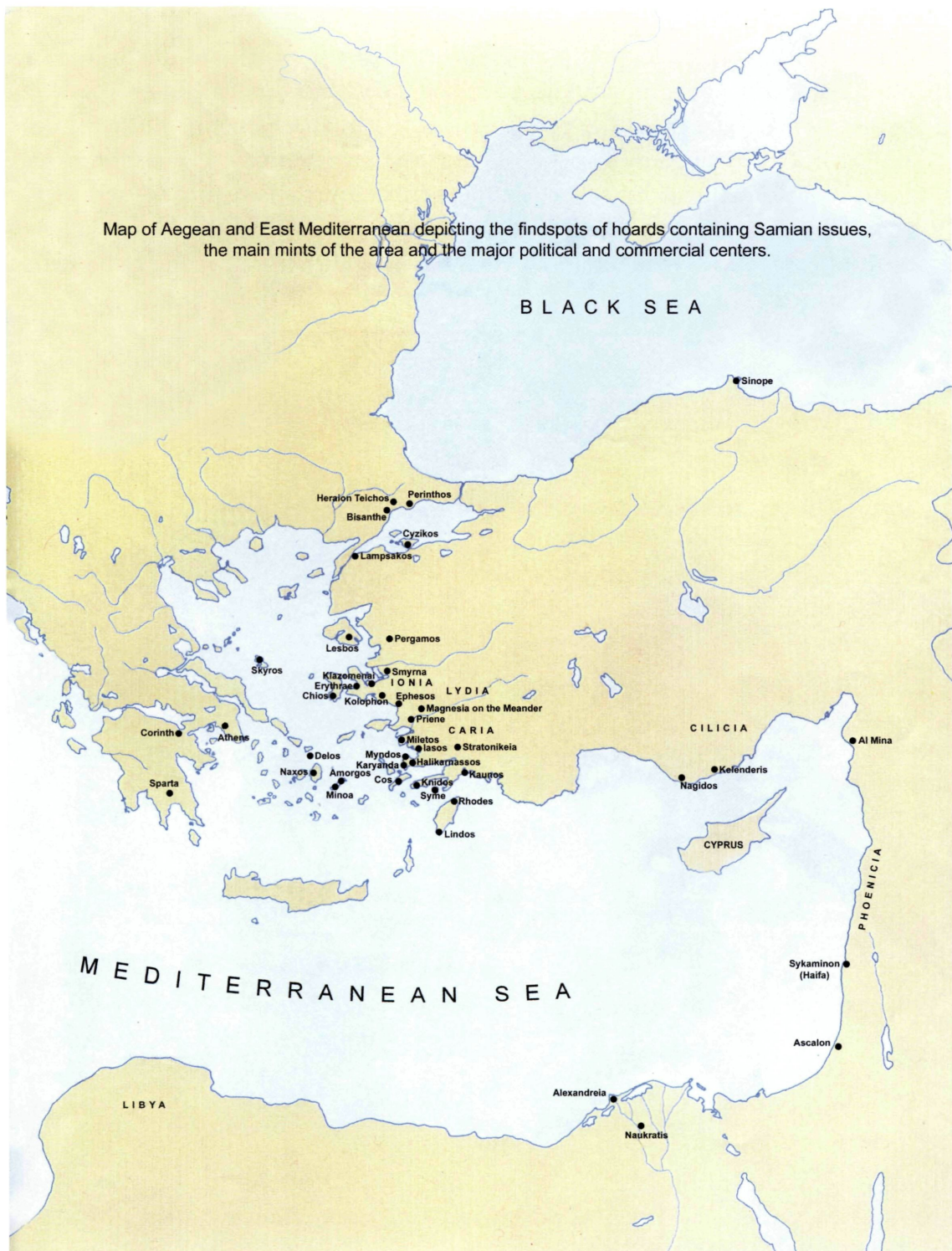
stability secured by the *pax romana*, within a globalized society, the city was to enjoy a new economic heyday, as indicated by the rich private houses and villas with atria, mosaics and plumbing installations, which are uncovered in the "aristocratic" neighbourhoods of the city, towards the sea and on the hills to the north and east of the residential area⁶⁴. In the Heraion, furthermore, Emperor Tiberius' renewal of the right of asylum⁶⁵, with the exemption from fiscal obligations and the other facilities it made provision for, created ideal economic conditions for the arrival of affluent citizens and the establishment of a settlement with opulent urban villas⁶⁶. The end of this new age came with the destruction of the settlement, after the middle of the third century AD⁶⁷.

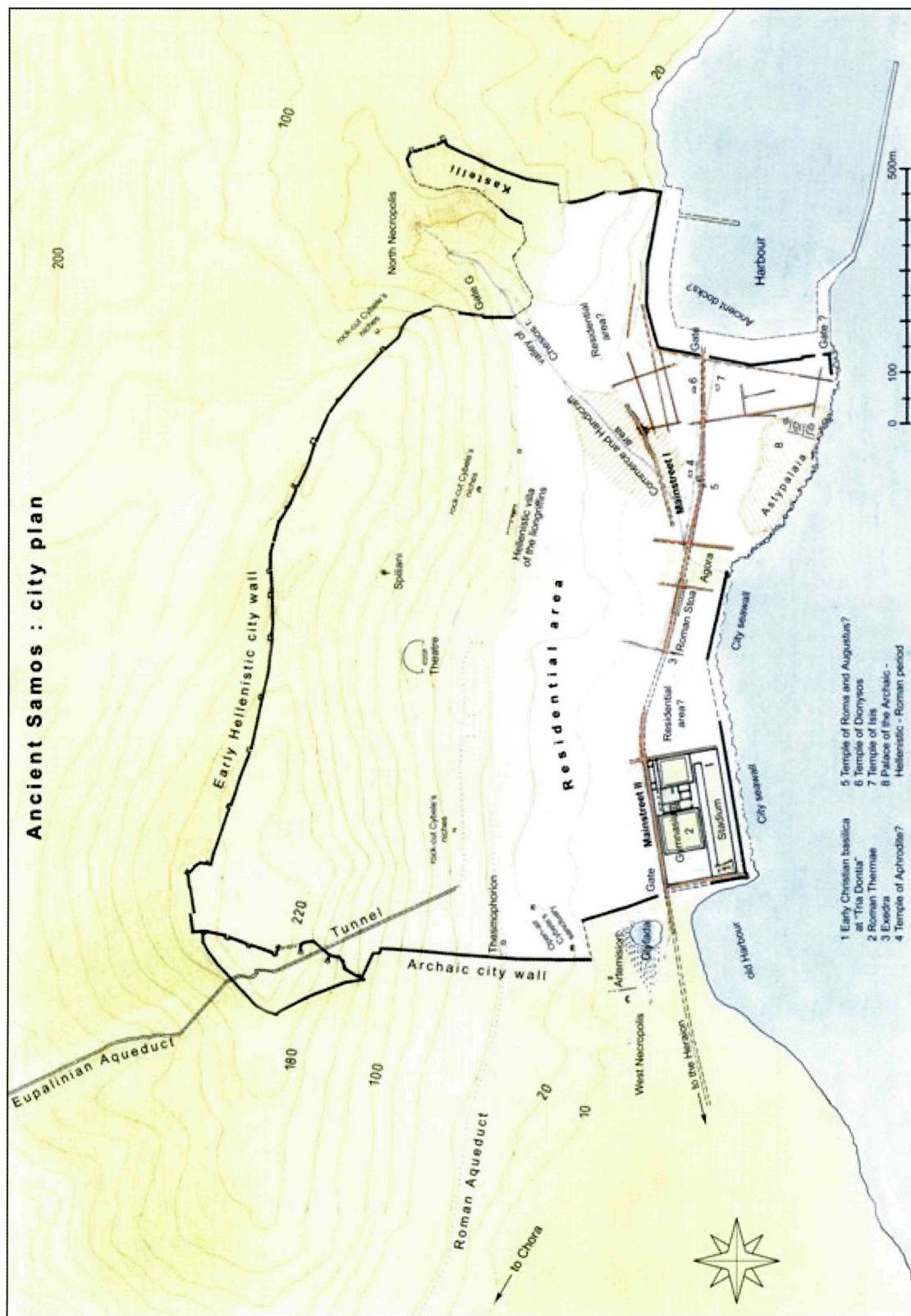
⁶⁴ V. Giannouli, «Αρχαία Σάμος: Η περιοχή της Άνω Πόλης», *Σαμιακές Μελέτες* 3 (1997-1998) Athens 1999, 7-77, especially 24-27.

⁶⁵ Suetonius, *Tiberius* 12. Walter 1990, 197.

⁶⁶ U. Sinn, "Die kaiserzeitliche Siedlung im Heraion von Samos", *Wohnungsbau im Altertum. Diskussionen zur archaologischen Bauforschung* 3, 1978, 188-193.

⁶⁷ Kyrieleis 1981, 52.





Excavation Hoards of Coins on the Island of Samos (Hellenistic period)

East necropolis

Cavo-Phonias, Tomb building

Cist grave 2 (30.4.1977)

In front of the tomb building with the cists

Inside a bronze vessel

Myndos: SNG, Cop. 445	(2nd-1st c.)
Cyme: SNG, Cop. 444	(2nd-1st c.)
Erythrae: SNG, Cop. 665	(3rd c.)
Miletus: SNG, Cop. 1001 (ΚΡΥΤΩΝ)	(190 BC)
Cnidus: SNG, Cop. 306	(300-190 BC)
Cos: SNG, Cop. 624-626	(366-300 BC)
Samos (2 pieces): SNG, Cop. 1718	(205-129 BC)
Rhodes: SNG, Cop. 858-859	(166-88 BC)
Rhodes: SNG, Cop. 860-863	(166-88 BC)
Samothrace: SNG, Cop. 1005-1006	(280 ? BC)
Smyrna (2 pieces): SNG, Cop. 1181	(190-75 BC)
Lampsacus (2 pieces): SNG, Cop. 230 (countermark: Bunch of grapes)	(2nd-1st c.)

Upon the dead

Ephesus: BMC 60, nos 118-120	(258-202 BC)
Halicarnassus: SNG, Cop. 340-342	(3rd-2nd c.)
Samos, diobolon: Barron 1966, 146-149 and 226-227, no. 2	(200 BC)

Northeast necropolis

Rock-cut tomb

Samos: SNG, Cop. 1676	(479-439 BC)
Samos: SNG, Cop. 1722-1724	(post-129 BC)
Samos: SNG, Cop. 1728	(27 BC-AD 14)
Samos: BMC 370, pl. XXXVI, 13	(imperial times)
Stratonicea: SNG, von Aulock 2653 and 8147	(167-1st c. BC)

West necropolis (Glyphada)

Rock-cut chamber tomb II (29.3.1980)

Samos: Barron 1966, 134-135	(321-281 BC)
Samos: SNG, Cop. 1721	(post-129 BC)
Samos: SNG, Cop. 1722-1724	(post-129 BC)
Samos: SNG, Cop. 1724	(post-129 BC)
Samos: SNG, Cop. 1728 (2 pieces)	(27 BC-AD 14)

Coin Hoards outside the Island of Samos

Izmir (Smyrna), 1936 (IGCH 1313+CH VIII, 343)

(Date of concealment 200 BC)

Gambreion (8 pieces): BMC 9, 14, 18
 Pergamon (2 pieces): BMC 24-25 and 54
 Aegae: BMC 2
 Cyme: BMC 27

Elaea: BMC 6
 Myrina: BMC 20
 Samos: BMC 157
 Alexander III

Priene (11 pieces)
 Magnesia (9 pieces)
 Miletus (8 pieces)
 Teos (4 pieces)
 Ephesus (2pieces)
 Erythrae (2 pieces)
 Myus
 Phocaea
 Cyzicus

Iasus (3 pieces)
 Caunus (2 pieces)
 Cos (2 pieces)
 Bargylia
 Nysa
 Myrina
 Pergamon (4 pieces)
 Perge (3 pieces)
 unidentifiable (24 pieces)

Ascalon, 1988 (CH IX, 548)

(Date of concealment 100 BC)

Teos: SNG, Cop. 1461-1465
 Cos: BMC 86
 Cos: BMC 104
 Cnidus: SNG, Cop. 306-310
 Rhodes (12 pieces)
 Lycia (5 pieces)
 Side: SNG, Deutsch.Pfalzer 504-509
 Tyre: BMC 248
 Seleucidae: SNG, Israel 1, 489-491
 Seleucidae: SNG, Israel 1, 1680-1683, 1691-1695
 Seleucidae: SNG, Israel 1, 1973-1978
 Ptolemies
 Samos (17 pieces): SNG, Cop. 1691
 Samos: SNG, Cop. 1717-1718
 Samos: SNG, Cop. 1720
 Samos, diobolon:
 Barron 1966, 147-148 and 227, no. 2

(310-250 BC)
 (300-200 BC)
 (200 BC)
 (300 BC)
 (190-1st c. BC)
 (180 ?-167 BC)
 (200 BC)
 (126/5-100 BC)
 (241-228 BC)
 (145-130 BC)
 (138-129 BC)
 (114/3-107/6 BC.)
 (412-404 BC)
 (281-221 BC)
 (200 BC)
 (200 BC)

Didyma, Temenos on the Sacred Way (CH VIII, 520)

(Date of concealment 75 BC)

Priene (11 pieces)
 Magnesia in Ionia (9 pieces)
 Miletus (8 pieces)
 Heraclea in Ionia (6 pieces)
 Teos (4 pieces)
 Ephesus (2 pieces)
 Erythrae (2 pieces)
 Samos (2 pieces)
 Myous
 Phocaea

Cyzicus
 Iasus (3 pieces)
 Caunus (2 pieces)
 Cos (2 pieces)
 Bargylia
 Nysa
 Myrina
 Pergamon (4 pieces)
 Perge (3 pieces)
 unidentifiable (24 pieces)

Samos. Excavation coins outside hoards

Outside the ancient city (Classical-Hellenistic periods)

Necropolises

East Necropolis

Cavo-Phonias, Tomb building

Grave 3 [cistus] (22/23.6.1977)

Samos, diobolon: Barron 1966, 146-149 and 226-227, nos 2-3

(200 BC)

Samos, diobolon: Barron 1966, 146-149 and 226-227, no. 1

(200 BC)

Rhodes, hemidrachm: SNG, Cop.845

(166-88 BC)

North Necropolis (Tsalikis field)

[*ADelt* 32,1977(1982), *Mel.*418-419]

Rock-cut tomb (15.11.1967)

Samos: SNG, Cop. 1722-1724

(post-129 BC)

Samos: SNG, Cop. 1728

(post-129 BC)

Samos: SNG, Cop. 1676

(479-439 BC)

Samos: BMC 370, pl. XXXVI, 13

(imperial times)

Stratonicea: SNG, von Aulock 2653 and 8147

(167-1st c. BC)

West Necropolis (M. Matthaïos field)

[*ADelt* 32,1977(1982), *Mel.* 418-419]

Grave 1 (N2) (6.5.1976)

Samos: SNG, Cop. 1721

(post-129 BC)

West Necropolis [ADelt 32,1977(1982), Mel.418]

Rock-cut tomb α3 (November 1968)

Rhodes: SNG, von Aulock 2833

(167-88 BC)

Samos: SNG, Cop. 1766

(205-129 BC)

West Necropolis (Early Christian Panagitsa Cemetery)

Double-chambered rock-cut tomb

North Chamber (May 1972)

[*ADelt* 28,1973(1977), B2, 541-543]

Samos: SNG, Cop. 1721

(post-129 BC)

Samos: SNG, Cop. 1722-1723

(post-129 BC)

Samos: SNG, Cop. 1724 (4 pieces)

(post-129 BC)

Samos: SNG, Cop. 1728 (2 pieces)

(post-129 BC)

West Necropolis (Vakentis field)***[ADelt 32,1977(1982), Mel.419]***

Rock-cut chamber tomb I

Samos: SNG, Cop. 1819

(205–129 BC)

Samos: reign of Augustus

Trench south of rock-cut tomb IV

Samos: SNG, Cop. 1717

(205–129 BC)

Ephesus: SNG, Cop. 299–303

(202–133 BC)

Grave VI

Rhodes, hemidrachm (ΓΟΡΓΙΑΣ): BMC 259, no. 296

(1st half 2nd c.–88 BC)

West Necropolis**Glyphada**

KN/N1(19.4.1991)

Athens, tetradrachm: Thompson 1961, 296, no. 8.39

(134/133 BC)

Rock-cut T.I (29.11.1985)

Samos, diobolon: Barron 1966, 146 ff. and 226–227, nos 2, 3

(200 BC)

Rock-cut T.I (central bier II N3)

Samos: SNG, Cop. 1718

(205–129 BC)

Area of Glyphada, handed in (21. 4.1970)

Miletus: SNG, Cop. 996

(post-190 BC)

Heraion***Samos IV, 1978: Das archaische Nordtor***

no. 486, pl. 64. Samos: Barron 1966, 134. 137, pl. XXXI, 4

(late 4th c. BC)

no. 487, pl. 64. Samos: Barron 1966, 149. 150, pl. XXXI, 11

(3rd–2nd c. BC)

no. 488, pl. 64. Ephesus: SNG, Cop. 365

(27 BC–AD 14)

Palioklisia (District of Myloi. Papachatzis field)

Colophon: SNG, Cop. 159–169

(330–285 BC)

Samos. Excavation coins outside hoards

Inside the ancient city (Classical-Hellenistic periods)

Commercial-manufacturing sectors

New Archaeological Museum plot (area of Chesios)

Square 22, TE 22. N2 (25.9.1986)

Samos: SNG, Cop. 1722-1724

(post-129 BC)

Ch. Plataniotou plot [*ADelt* 28,1973(1977), B2, 527]

Shaft (June 1971)

Samos: SNG, Cop. 1720

(205-129 BC)

E. Skoufos plot [*ADelt* 28,1973(1977), B2, 533-537]

Space XIII, 1972

Samos: SNG, Cop. 1721-1724

(post-129 BC)

Space Vα. On the floor (10.10.1977)

Samos: SNG, Cop. 1718

(205-129 BC)

C. Spachis plot (pres. New Archaeological Museum)

[*ADelt* 26,1971(1975), B2, 459]

Section 2 (6. 5. 1970)

Rhodes, didrachm: SNG, Cop. 1720

(205-129 π. X.)

G. Ollandezos plot (pres. New Archaeological Museum)

[*ADelt* 28,1973(1977), B2, 530-533]

Space B. of the vaulted tomb (4.12. 1972)

Samos: SNG, Cop. 1717

(205-129 BC)

Hadjiioannou plot (Area W. of ancient harbour)

[*ADelt* 32,1977(1984), B2, 298-299]

Section Δ (5) N18 (4. 5. 1977)

Samos: SNG, Cop. 1690

(394-365 BC)

Section Δ (5) N11 (11. 11. 1976)

Samos: SNG, Cop. 1694

(322-205 BC)

Section Δ (3) N12 (11. 11. 1976)

Rhodes :SNG, Cop. 858-859

(167-88 BC)

Section A N24 (20. 5. 1977)

Samos: SNG, Cop. 1719

(205-129 BC)

Section A N 9 (10. 11. 1976)

Samos: SNG, Cop. 1719

(205-129 BC)

Section B (1) N 4 (2. 11. 1975)

Samos: SNG, Cop. 1717

(205-129 BC)

S. Moustakas plot (E. of area of Chesios)
[*ADelt* 32,1977(1984), B2, 297-298]

Section A. Extension (9. 9. 1977)

Samos: SNG, Cop. 1714-1716 (205-129 BC)
 Samos, didrachm: Barron 1966, 124ff., pl. XXXIV, 21b (310-300 BC)
 Samos: SNG, Cop. 1722 (post-129 BC)

Section A. Extension (20. 9. 1977)

Samos: SNG, Cop. 1717 (205-129 BC)
 Samos: SNG, Cop. 1720 (205-129 BC)

Section A. Extension (9. 9. 1977)

Samos: SNG, Cop. 1716 (205-129 BC)

Section A. S. extension (22. 9. 1977)

Samos: SNG, Cop. 1717 (205-129 BC)
 Samos: SNG, Cop. 1719 (205-129 BC)

Section A. E. part (31. 8. 1977)

Cos: BMC no. 116 (190-166? BC)
 Samos: SNG, Cop. 1720 (205-129 BC)
 Samos: SNG, Cop. 1722 (205-129 BC)
 Samos: BMC, no. 171, pl. XXXVI, no. 4 (322-205 BC)

E. part of Section, middle of Section (1. 9. 1977)

Samos: SNG, Cop. 1718 (205-129 BC)
 Samos: SNG, Cop. 1721 (post-129 BC)

(12. 10. 1977)

Samos: SNG, Cop. 1718 (205-129 BC)

East part (12. 9. 1977)

Ptolemy V: Svoronos 202, no. 1236, pl. XL, 13 (205/4-180 BC)
 Ephesus: SNG, Cop. 262 (295-280 BC)

Area of public buildings

N. Karanikolaos plot [ancient agora]

Section Ξ, layer 1 (N58), KAP 46θ (5. 7. 1974)

Samos: SNG, Cop. 1717-1718 (205-129 BC)

Section P1, 3 (N 109) (16. 3. 1975)

Samos: SNG, Cop. 1714-1715 (205-129 BC)

Section II, layer 1 (N75), KAP 48δ (5. 7. 1974)

Nysa in Lydia: Weber Collection III, no. 6862 (2nd c. BC)

KAP 39γ (N 38) (27. 6. 1974)

Samos: SNG, Cop. 1723 (post-129 BC)

KAP 4 (N 5) (20. 3. 1974)

Samos: SNG, Cop. 1720 (205-129 BC)

KAP 12 (N 12) (23. 3. 1974)

Samos: Gardner, NC 1882, 265, pl. III, 16 (322-205 BC)

KAP 21 (N 19) (27. 4. 1974)

Samos: SNG, Cop. 1723-1724 (post-129 BC)

T. Dimitriou plot [ancient gymnasium]
[*ADelt* 32,1977(1984), B2, 293–295]

Section IB, Φ.7 (4. 11.1977)

Stratonicea BMC, 150, no. 28

(81 BC et seq.)

Section KΔ, Φ.30 (6. 12.1977)

Samos: Gardner, NC 1882, 270, op. 11

(205–129 BC)

Section KE, Φ.31 (8. 12.1977)

Samos: BMC 369, no. 202

(129–20 BC)

Sanctuaries

Central Section (area of temple of Aphrodite)

A. Athinaiou plot

ΦA 3 (10.11.1967)

Samos: SNG, Cop. 1719

(205–129 BC)

West Section

"Passas field" [Thesmophorion]

Trench 2. Ditch 8 (N3) (18. 5. 1976)

Samos: Gardner, NC 1882, 265, 8, pl. III(X) 17

(322–205 BC)

Trench 2. Ditch 26 (25. 6. 1976)

Samos: SNG, Cop. 1717 (N15)

(205–129 BC)

Samos: SNG, Cop. 1720 (N13)

(205–129 BC)

Samos: SNG, Cop. 1720 (N14)

(205–129 BC)

Trench 2. Ditch 9 (N5) (19. 5. 1976)

Samos: Gardner, NC 1882, 266, 9, pl. III (X), 18

(322–205 BC)

Trench 2. Ditch 28 (N18) (2. 7. 1976)

Samos: Gardner, NC 1882, 272, 1, pl. IV (XI), 12

(21/20 BC)

Trench 2. From the earth of the ditch 13 (N9) (11. 6. 1976)

Samos: Gardner, NC 1882, 258, 12, pl. III (X), 10

(394–365 BC)

Trench 2. Ditch 26 (N11) (25. 6. 1976)

Samos: Gardner, NC 1882, 266, 6, pl. III (X), 16

(322–205 BC)

Trench 2. Ditch 7 (N6) (20. 5. 1976)

Samos: Gardner, NC 1882, 266, 8, pl. III (X), 17

(322–205 BC)

Trench 2. Ditch 8 (N4) (18. 5. 1976)

Samos: Gardner, NC 1882, 265, 6, pl. III (X), 16

(322–205 BC)

Trench 2. Ditch 10 (N7) (21. 5. 1976)

Samos: SNG, Cop. 1706–1707

(322–205BC)

Trench 2. Ditch 31 (N20) (17. 9. 1976)

Samos: SNG, Cop. 1719

(205–129 BC)

Trench 2. Ditch 16 (N10) (12. 6. 1976)

Cyme: SNG, Cop. 62

(350–250 BC)

Trench 3. (N2) (19. 4. 1976)

Samos: Gardner, NC 1882, 269, 9, pl. IV (XI), 8

(205–129 BC)

Trench 3. Ditch 38 (N21) (23. 9. 1976)

Samos: Gardner, NC 1882, 265, 8, pl. III(X) 16

(322–205 BC)

Area of the harbour

Pachos plot [sanctuary of Dionysos ?]
[*ADelt* 33,1978(1985), B2, 332]

Section A, N. point (N1) (11. 5. 1978)
Samos: Gardner, NC 1882, 269, no. 8, pl. IV, 7 (205-129 BC)

Section A, N. point (N23) (15. 5. 1978)
Samos: SNG, Cop. 1718 (205-129 BC)

Section A, N. point (N11-13) (13. 5. 1978)
Samos: SNG, Cop. 1704 (322-205 BC)
Ephesus: SNG, Cop. 255 (387-295 BC)

Ptolemy I: Svoronos, 25, no. 157

Section A, S. point (N4-7) (12. 5. 1978)

Ptolemy I: Svoronos, 4, no. 269, pl. X

Ptolemy I: SNG, Cop. 61 and 36

Pylaemenes in Paphlagonia: BMC 103, nos 2-3 (1st c. BC)

Section A, S. point (N17-18) (15. 5. 1978)
Samos: SNG, Cop. 1718 (205-129 BC)

From the debris (N30) (22. 5. 1978)
Pitane: Weber Collection III, no. 5237 (4th c. BC)

Samos. Excavation coins not in hoards

Inside the ancient city (Classical-Hellenistic periods)

Residential area – East sector

I. Servios plot (30.6.1972)

Samos :BMC 368, no. 188ff (205-129 BC)

C. Dimitriadis plot [*ADelt* 33,1978(1985), B2, 335]

Section H, N 19 (Group 72) (31. 7.1978)

Samos: Gardner, NC 1882, 269, no. 8, pl.I V, 7 (205-129 BC)

Section H, (space A) N 23 (Group 94) (5. 8.1978)

Samos: SNG, Cop. 1719 (205-129 BC)

Section I, N 7 (Group 20) (22. 6.1978)

Samos: SNG, Cop. 1717 (205-129 BC)

Section A, N 13 (E. part) (12. 6.1978)

Samos: SNG, Cop. 1722 (post-129 BC)

Section Δ, N 15 (between walls 5, 7 and 4) (Group 57)(24. 7.1978)

Samos: BMC 369, no. 201 (129-20 π. X.)

Section Γ, N 4 (between conduit 2 and wall 4) (Group 12)(21. 6.1978)

Samos: SNG, Cop. 1720 (205-129 BC)

Section E, N 12 (between conduits 1 and 2) (Group 42) (4. 7.1978)

Samos: SNG, Cop. 1719 (205-129 BC)

Section E, N 14 (between conduits 1 and 2) (Group 144)(5. 7.1978)

Samos: SNG, Cop. 1721 (post-129 BC)

C. Passas plot

Fill (2.10.1974)

Samos: SNG, Cop. 1721 (post-129 BC)

Section 3

Larisa in Ionia: BMC 153, nos 1-2 (300 BC)

or Colophon :SNG, Cop. 149 (330-285 BC)

Section 2/5, layer IA (17. 8. 1977)

Samos: SNG, Cop. 1690 (394-365 BC)

Samos: SNG, Cop. 1718 (205-129 BC)

Ephesus: SNG, von Aulock 1838 (4th-3rd c. BC)

Section 2/5, layer H (16. 8. 1977)

Samos: SNG, Cop. 1718 (205-129 BC)

Samos: SNG, Cop. 1720 (205-129 BC)

Samos: SNG, Cop. 1726 (205-129 BC)

Rhodes: SNG, Cop. 751 (394-304 BC)

Section 2/5, layer A (5. 8. 1977)

Samos: SNG, Cop. 1720 (205-129 BC)

Samos: Gardner, NC 1882, 265, no. 8, pl. III, 17 (322-205 BC)

Section 3, with loom-weight (12. 8. 1977)

Samos: BMC 361, no. 125 (439-394 BC)

Samos: SNG, Cop. 1691 (394-365 BC)

Section 2/5, layer I (9. 8. 1977)	
Erythrae: SNG, von Aulock 1948–1949	(400 BC)
Section 2/5, layer I (17. 8. 1977)	
Samos: Gardner, NC 1882, 265, no. 8, pl. III, 17	(322–205 BC)
Section 2/5, layer B (9. 8. 1977)	
Samos: SNG, Cop. 1706–1707	(322–205 BC)
Erythrae: SNG, Cop. 688	(200–133 BC)
Section 2/5, layer B (11. 8. 1977)	
Samos: SNG, Cop. 1718	(205–129 BC)
Section 2/5, layer Θ (16. 8. 1977)	
Samos: SNG, Cop. 1720	(205–129 BC)
Section 2/5, layer E (9. 8. 1977)	
Ephesus: SNG, von Aulock 1838	(4th–3rd c.)
Section 2/5, layer Δ (9. 8. 1977)	
Cos: SNG, Cop. 624–626	(366–300 BC)
Samos: SNG, Cop. 1720	(205–129 BC)
Section 3 (4. 8. 1977)	
Miletus: SNG, Cop. 994	(post–190 BC)
Section 2/5, layer ΣΤ (12. 8. 1977)	
Samos: SNG, Cop. 1717	(205–129 BC)
Baulk T.9 (19. 8. 1977)	
Magnesia ad Meander: SNG, Cop. 804	(350–190 BC)

Heirs of E Valassiadis plot [*ADelt* 32,1977(1984), B2, 299–301]

Section B, N. of conduit 3 (Group 22) (16/17. 6. 1977)	
Samos: SNG, Cop. 1718	(205–129 BC)
Samos: SNG, Cop. 1720	(205–129 BC)
Section B, between walls 1 and 5 (Group 9)	
Samos: SNG, Cop. 1717	(205–129 BC)
Collected outside the plot	
Samos: BMC 365, no. 166	(322–205 BC)

Residential area – West Sector

G. Andreadakis field

Trench 1, space I (Group 36) N7 (K1) (20. 11. 1975)	
Samos: SNG, Cop. 1717	(205–129 BC)
Trench 1, from the debris N. of 3K10, (N14)(12. 12. 1975)	
Samos: SNG, von Aulock 2305	(20 BC–AD 70)

Residential area – North Sector

The "Lion-griffins" villa (1997. 2000–2001)

Samos: SNG, Cop. 1716, 1718–1719 1720 (4 specimens)	(205–129 BC)
Knidos (?): SNG, Cop. 312	(300–190 BC)
Samos: SNG, Cop. 1722–1724 (9 pieces)	(post–129 BC)
Myndos: SNG, Cop. 449	(2nd–1st c. BC)
Cos: SNG, Cop. 624 or SNG, Cop. 644	(366–300 or 300–190)
Kolophon: SNG, Cop. 159	(330–285 BC)

Castro [Astypalaea]

R. Toelle-Kastenbein, *Das Kastro Tigani*.

Die Bauten und Funde griechischer, römischer und byzantinischer Zeit. Mit Beiträgen von R. Felsch und U. Jantzen, Bonn 1974, 117ff.

Samos: Barron 1966, 134, pl. XXXI,2	(321-281 BC)
Samos: Barron 1966, 134, pl. XXXI,5	(321-281 BC)
Samos: Gardner, NC 1882, 65, no. 5, pl. III, 15	(322-205 BC)
Samos: Barron 1966, 142, pl. XXXI, 8	(281-221 BC)
Samos: BMC 368, nos 193-195, pl. 36, 10	(205-129 BC)
Samos: Gardner, NC 1882, 72, no. 1, pl. IV, 12	(20 BC-AD 70)
Priene: SNG, von Aulock 2155-1257	(2nd c. BC)
Teos: BMC 314ff., nos 32ff.	(Hellenistic period)
Smyrna: SNG, von Aulock 2170	(75-50 BC)
Cyzicus: SNG, von Aulock 1239-1240	(100 BC)

Eupalinian Aqueduct

Samos XX, 2004: Die Wasserleitung des Eupalinos. Die Funde

no. 870. Samos: Barron 1966, 134, pl. XXXI,2	(321-281 BC)
no. 871. Samos: Barron 1966, 134, pl. XXXI,4	(321-281 BC)
no. 872. Samos: Barron 1966, 134, pl. XXXI,5	(321-281 BC)
no. 873. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
no. 874. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
no. 875. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
no. 876. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
no. 877. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
no. 878. Samos: Barron 1966, 134, pl. XXXI,6	(321-281 BC)
nos 879,881. Samos: Barron 1966, 134, pl. XXXI,8-9 (2 pieces)	(321-281 BC)
no. 880. Samos: Barron 1966, 149	(200 BC)
no. 882. Ephesus	

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*Recent evidence
on the economy
and trading contacts
of Andros in antiquity*

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ANDROS, the island at the northernmost edge of the archipelago of the Cyclades, lies on the sea lane from the Greek Mainland-Attica and Euboea to the rest of the Cyclades, as well as to the islands of the eastern and southern Aegean, and the East. Its location thus ensured its strategic and commercial importance. The concentration of ancient sites on the north and mainly the west coast of the island (fig. 1) also points to the importance of its location for maritime communication in Antiquity, while the seafaring skills of its inhabitants are ascertained from a very early period¹. In addition to its advantageous location, Andros has sheltered anchorages and, in contrast to most of the Cycladic islands, abundant fresh water, fertile soils and pastures. Thus the island's economic prosperity was due not only to fishing, shipping and trade, but also to agriculture and animal husbandry², as well as, apparently, apiary. Furthermore, the rich vegetation also contributed to the development of shipping, by supplying plenty of timber for shipbuilding. To these favourable factors for the island's affluence should be added its metal ore deposits³.

The domination of Eretria on Andros during the Geometric period undoubtedly contributed to this economic development⁴.

It seems that around 700 BC the inhabitants of the settlements of Geometric times moved and founded the city of Andros, in the fertile region of what is now Palaiopolis⁵, in the framework of the synoecisms at the end of

¹ See Koutsoukou 1993, 102, 103. The prehistoric rock-carvings found in the Neolithic settlement at Strofilas, which represent ships and subjects associated with animal husbandry, to a degree echo the inhabitants' activities in relation to seafaring, trade and fishing; Televantou 2006, 6-7.

² Palaiokrassa-Kopitsa 1996, 252-253, 268-269.

³ See Palaiokrassa-Kopitsa 1996, 268.

⁴ Cf. Parker 1997, 31-32, 91, 157 (with bibliography).

⁵ Cf. Lang 1996, 43. Palaiokrassa-Kopitsa 1996, 263. Eadem, 1998, 65-66 and note 35, also with relevant bibliography.

the Geometric period. Andros developed into a significant power in the Aegean, since from early on it was involved in colonizing activity, in part with the Chalcideans⁶, in regions rich in metal ores and timber, that is the Chalcidice and the Thracian littoral, in the Strymon valley, on the route to the interior of Bisaltia and the region of Mount Pangaeum. It is characteristic that one of its colonies, Argilos, is the earliest Greek colony on the rich coast of Thrace. Even so, Andros does not appear to have succeeded in maintaining economic influence in these colonies, since to date there is no evidence of obvious relations and economic transactions between the colonies and their metropolis, even in the seventh century BC⁷, as is observed in the case of Thasos, for example.

Study of the visible surface remains of the ancient city (fig. 2), the excavation data and the results of the investigation of the mighty harbour installations preserved submerged in the sea, bear witness to an extensive prosperous city. Although the acropolis was high up on the amphitheatrical hillside, reinforced by a strong fortification wall, the agora developed in the flat area in front of the shore⁸, very close to the harbour (fig. 3), whose basin was protected by a robust construction and developed early, before the Classical period, as has recently been ascertained in underwater research still in progress⁹. Some buildings on the seafront, such as the remains of a bathhouse, are linked with the functioning of the harbour¹⁰.

The buildings that have been uncovered from 1993 onwards on the site of the agora served the economic life of the city and the daily life of its inhabitants¹¹. Evidence of a smithy was revealed inside a building with peristyle court and monumental propylon¹² (fig. 4). The scoriae from smelting copper and iron ores, found in large quantities to the east of the ancient city,

⁶ Of the colonies, Argilos and Stageira (?) seem to be purely Andrian, while Chalkis is considered to have participated in the founding of Sane and Akanthos, cf. Parker 1997, 48–49, 99 note 427. For the colonies of Andros, see Palaiokrassa-Kopitsa 1998, 65, 66–67. Romiopoulou 1999, 126–131 and Tiverios 2006, 79.

⁷ Since there is no local pottery production on Andros, it is difficult to ascertain whether the early pottery with Aegean influences found, for example, at Akanthos, is the result of contacts with the metropolis. See Romiopoulou 1999, 128. E. Trakosopoulou-Salakidou, «Ακανθος», *AEMΘ* 18 (2004), 157–158.

⁸ See Palaiokrassa-Kopitsa 1996, 31, 35, 254–255; Palaiokrassa-Kopitsa (ed.), 2007, 69–71.

⁹ The research is conducted under the supervision of the geologist Dr N. Mourtzas: Mourtzas 2007, 104–108.

¹⁰ See Palaiokrassa-Kopitsa 1996, 147–151 [cat. no. KT 143(Λ)].

¹¹ These are two porticoes and one building with monumental propylon and peristyle court, possibly of the late 3rd or the early 2nd c. BC: Palaiokrassa-Kopitsa 2004, 121–148 (with earlier bibliography); Eadem 2007, 47–59.

¹² See Palaiokrassa-Kopitsa 2004, 132; Eadem 2007, 55.

also attest to exploitation of the island's mineral wealth¹³. However, the available evidence is not enough to determine Andros's degree of economic self-sufficiency and the scope of its commercial contacts. The state apparently applied an imports policy, aimed at ensuring adequate supplies of staples for its population. Epigraphic testimonies¹⁴ record the import of grain. Excavation finds also show that imports included obsidian¹⁵, volcanic stone used for making querns¹⁶, pumice¹⁷ and marble¹⁸.

However, two of the Andrians' principal sources of income seem to have been beekeeping and, as noted above, exploitation of its mineral-rich subsoil. The great number of fragments of clay beehives found in excavation, and others collected in surface survey¹⁹, indicate that the inhabitants' involvement with apiary exceeded their daily needs.

Direct testimony of the island's thriving economy is the high tribute, 6-15 talents, it paid to the Athenian League²⁰, from 451/0 BC until 416/15 BC, as is recorded in the Athenian tribute lists. This tribute possibly replaced the Andrians' obligation to provide ships for the allied navy²¹.

Certain artefacts, such as coins and transport amphorae, echo directly the economic development of the islands and the mercantile activities of the islanders.

Thus, witness to the prosperity of Andros is its coinage²². Some scholars have reasonably supposed that it minted coins in the latter years of the sixth

¹³ Palaiokrassa-Kopitsa 1996, 24, 262.

¹⁴ *IG XII.5*, 714, add. *IG XII Suppl.* 119. C. Vial, *Délos Indépendante*, *BCH Suppl.* 10 (1984), 114 note 111. G. Reger, "The date and historical significance of *IG XII.5*, 714 of Andros", *Hesperia* 63 (1994), 309, where is proposed the dating of the inscription to the second quarter of the 3rd, instead of the mid-4th c. BC. *SEG* 44 (1994), 699; Palaiokrassa-Kopitsa 1996, 269, 296 note 406 and 410, 305 note 575.

¹⁵ Obsidian blades, cores and flakes were found in the pre-excavation survey: Palaiokrassa-Kopitsa 1996, 35, 262, 270, 274 note 73), and in the excavation research: Palaiokrassa-Kopitsa 1998, 65 and Palaiokrassa 2001, 230. For the obsidian finds from Zagora, see Cambitoglou - Birchall - Coulton - Green 1988, 245 ff. See also Koutsoukou 1993, 100-101, figs 2, 4: obsidian finds from various parts of the island.

¹⁶ See Palaiokrassa-Kopitsa 1996, 268, 270.

¹⁷ The fill of the Early Christian basilica under excavation on the site of the agora, yielded a considerable quantity of pumice. See also Palaiokrassa-Kopitsa 1996, 270.

¹⁸ Thasian, Pentelic and Parian marble was used for making certain architectural members and statue bases, as well as for sculptures revealed on the site of the agora. See also Palaiokrassa-Kopitsa 2004, 126, 128 note 5.

¹⁹ See Palaiokrassa-Kopitsa 1996, 269-270.

²⁰ Andros, together with Naxos and Melos, paid the highest tribute after Paros. See Meritt - Wade - Gery - McGregor 1950, 57, 197, 267, 348; Meiggs 1972, 242, 526, 530.

²¹ Meritt - Wade-Gery - McGregor 1950, 239 and note 31, 244 note 6, 267.

²² Cf. Liampi 1998, 219-220 (with bibliography); Oeconomides 1999, 319-320, Marathaki

century BC²³. However, there is secure evidence from the fourth century BC onwards²⁴, with silver and copper issues, the iconography of which was mainly inspired by the cycle of Dionysos (fig. 5). The island's coin production also continued into Roman imperial times²⁵.

The dispersion of Andrian coins during Hellenistic and Roman times, in the Athenian Agora²⁶, Delos²⁷, Tenos²⁸, Eretria²⁹, Chios³⁰ and Corinth³¹, and the Andrian issues in hoards discovered at Karystos and Naxos³², reveal a somewhat limited commercial presence of the Andrians. However, the evidence of the coins from the excavation conducted by the University of Athens on Andros is richer. The island's contacts are ascertained from the silver hemidrachm of Argos (AMA Inv. no. 340, 465–430 BC [fig. 6]) and the bronze coins of Delos (AMA Inv. nos 138, 100 and 303, 3rd – 1st c. BC), Tenos (AMA Inv. nos 212, 219, 159 and 295, 4th(?) and 3rd c. BC), Paros (AMA Inv. nos 65 and 304, late 4th c. BC and 147–174 AD), Ioulis Kea (AMA Inv. nos 141a, b, 3rd and 1st c. BC), Athens (AMA Inv. nos 40, 198, 2nd–early 1st c. BC), the Koinon of Thessalians (AMA Inv. no. 337, 199–146 BC [fig. 7]), Lampsakos (AMA Inv. no. 147, late 4th–early 3rd c. BC) and Amisos in Pontus (AMA Inv. no. 353, 1st c. BC [fig. 8])³³. Excavations carried out by the Archaeological Service have also yielded a silver hemidrachm of Rhodes and bronze coins of Tenos, Anaphe, Athens, the Troas and Antiphellos³⁴. Of particular interest among these coins are those of Argos, the Thessalians, Rhodes, and the cities of Pontus, Lycia and Asia Minor, which reveal the wide

2007, 85, 88. See the unpublished Master Thesis by Georgiou 2002. The coins found from 2001 onwards have been identified and studied by Irene Marathaki.

²³ These are silver coins with amphora on the obverse and incuse square on the reverse. See Paschalis 1898, 1–6 and idem 1925, 452–453, 458; Liampi 1998, 221; Marathaki 2007, 85. For the attribution of the type to Kea and the related research problems, see Papageorgiadou-Banis 1997, 81–85 (with earlier bibliography).

²⁴ See Liampi 1998, 221 ff.; Marathaki 2007, 85.

²⁵ Cf. Paschalis 1925, 463–465 nos 50–51, 53–55, 57, 52 (Trajan), 56 (Trajan), 58 (Trajan), 59 (Marcian), 60 (Hadrian), 61 (Antoninus Pius), 63–64 (Marcus Aurelius and Lucius Verus), 65 (Faustina the Younger), 66 (Commodus), 67 (Septimius Severus), 68 (Getas). See also Liampi 1998, 222–223; Marathaki 2007, 85, 87–88, figs 150–152.

²⁶ 10 coins: Kroll 1993, 248–249, nos 821–824.

²⁷ 1 coin: Bruneau et al. 1970, 397 F 430, pl. 67.

²⁸ 3 coins: Étienne and Braun 1986, 262 nos 63–66.

²⁹ 1 coin: I. Varoucha-Christodouloupoulou, *ADelt* 19, 1964, Χρονικά, 12.

³⁰ I. Varoucha-Christodouloupoulou, *BCH* 86, 1962, 427.

³¹ Edwards 1933, 68 no. 439.

³² More frequent is the presence of Archaic silver coins of debated issue in hoards: Sheedy 1997, 112–113; Liampi 1998, pl. I.

³³ Marathaki 2007, 89–91.

³⁴ Televantou 2002, 48–49.

extent and ambit of the island's trading contacts, already from the fifth century BC.

These numismatic data complement the evidence derived from the study of the transport amphorae, which constitute a significant field of research and offer important information for dating a site, its economy and trading contacts. There are no indications that Andros produced its own amphorae, as was the case in other parts of the Aegean (Paros, Naxos, Rhodes, Kos, Samos, Knidos, Chios, Skopelos, Halonnesos, Crete, and elsewhere)³⁵. Nonetheless, excavations on Andros have yielded many fragments of amphorae of different types and periods, stamped or not, imported from the major known production centres in the Aegean region. The earliest transport amphora, allegedly found in the sea off Andros, is dated to the sixth century BC and carries an incised inscription in the Corinthian alphabet, with the name Nikeas (NIKEΑΣ)³⁶. The rest of the amphorae referred to here were found in the residential area of the ancient city at Palaiopolis and on the site of the agora³⁷.

For the present the material is too fragmentary to draw conclusions. Nevertheless, it is sufficient to make a preliminary assessment of the provenance of the transport amphorae and the imports to the island. There are numerous bases, necks and handles, many of which preserve stamps, some in various degrees of erosion.

The earliest fragments are of amphorae from a workshop that is difficult to determine, as is the case with fragment AMA Inv. no. 1389.γ, of the first half of the fourth century BC, which preserves the lower body and the hollow knob³⁸. The type resembles amphorae from Athens³⁹ and Peparethos⁴⁰. Of an unknown workshop is the amphora neck with one handle, of the late fifth or the early fourth century BC, with graffito on the neck denoting the capacity in choes and kotyles⁴¹ (fig. 9).

³⁵ For trade amphorae, see indicatively, Eiring – Lund (eds) 2004, and Whitbread 1995, 1–8 cf. also pl. 1, on which Andros does not appear as a centre of transport amphorae production.

³⁶ See Televantou 2002, 41–43, 68, cat. no. 30.

³⁷ It should be noted that on the site of Palaiopolis so far there are no signs of workshop installations.

³⁸ Pres. h. 10 cm. and diam. of knob 8 cm.

³⁹ See V. Grace, *Amphoras and the Ancient Wine Trade, Excavations of the Athenian Agora, Picture Book 6* (1961), fig. 2.

⁴⁰ See A. Doulgéri-Intzessiloglou – Y. Garlan, "Vin et amphores de Péparéthos et d' Ikos", *BCH* 114, 1990, 386–387, fig. 35.

⁴¹ AMA Inv. no. 1551. Pres. h. 30 cm. Vivliodetis 2007, 78, fig. 120. For the graffito, cf. M. Lang, "Numerical Notation on Greek vases", *Hesperia* 25 (1956) 5 no. 9, pl. 1, and eadem, *Graffiti and Dipinti, The Athenian Agora XXI* (Princeton 1976), 64 ff., pl. 37.

Amphorae from the Thasian, the Knidian and the Koan workshop have been identified with certainty. One of the earliest stamp impressions (fig. 10) can be attributed securely to the Thasian workshop and dated to the fourth century BC⁴². It bears a representation of a bird at the centre, the ethnic Θασί[ων] on one long side, and remnants of letters from the name of the maker or the eponymous archon⁴³.

Handles with rectangular or circular stamps in which is written the ethnic in genitive plural or fairly frequently the epithet Knidian (Κνίδιον), as well as the name of the eponymous archon or the maker and some symbols characteristic of the workshop, can be attributed to the Knidian centre of amphora production⁴⁴. Handle AMA Inv. no. 693⁴⁵ (fig. 11) preserves clearly and in relatively good condition a stamp with the forepart of a lion and the letters OY. The subject occurs frequently on stamps of Knidian amphorae from the second century BC⁴⁶. Amphora handle AMA Inv. no. 1340⁴⁷ (fig. 12), on the stamp of which is inscribed: ΕΠΙ ΑΣΚΛΗΠΙΟΔΩ/ΡΟΥ [- - - -] ΝΕΥΟ/ ΚΝΙΔΙΩΝ, that is the name of the eponymous archon with the preposition ἐπί and a second name, incomplete, possibly of the maker with the ethnic in genitive plural, can be dated to the same period. Asklepiodoros, an eponymous archon and garrison commander (phrourarch), as well as a maker with the same name, are written on Knidian amphorae that have been found in Tenos, Corinth and mainly Athens⁴⁸. Handle AMA Inv. no. 2106.β

⁴² AMA Inv. no. 712. Max. pres. l. 5.2 cm. and dimensions of stamp 2 x 3 cm. Vivliodetis 2007, 79, fig. 123. For the emblem, see Grace 1956, no. 41, 225, pls 56, 77, and Y. Garlan, "Quelques nouveaux ateliers amphoriques à Thasos", *BCH* Suppl. 13 (1986), 241, fig. 33 and idem, 1999, 247 no. 743 (group F1), 260 no. 805, 265 no. 832 (group G).

⁴³ On the basis of the published examples, one possible completion is with the name Posideios (Ποσίδειος), see Grace 1956, 134 no. 41. The stamp on the handle AMA Inv. no. 1171, with representation of bunch of grapes (l. 7.8, w. 3.5 cm.), and the circular stamp on the handle AMA Inv. no. 2107.β (dimensions: l. 4.35, w. 4.5 cm.), with representation of transport amphora, belong to the same workshop, with reservation due to the absence of inscriptions. For analogous examples, see Bon 1957, nos. 1941–1944. Garlan 1999, 189 no. 467. Grace – Savvatianou–Petropoulakou 1970, nos E160–161. Jöhrens 1999, 220 no. 732 and C.G. Koehler, "Amphoras on amphoras", *Hesperia* 51 (1982), 284 ff., pls 78–79.

⁴⁴ For the characteristics of Knidian amphorae, see Grace – Savvatianou–Petropoulakou 1970, 317–324. Koehler – Wallace Matheson 2004, 163–169.

⁴⁵ L. of handle: 7 cm. Vivliodetis 2007, 79, fig. 125.

⁴⁶ For similar stamps inscribed with the name of the maker Kyprou (Κύπρου) or Kypros (Κύπρος) accompanying the eponyms Daidalos, Timasikrates or Damokritos, see Grace 1956, 161, nos 173–176 pl. 70. Grace – Savvatianou–Petropoulakou 1970, 345 no. E158 and Jöhrens 1999, 220 no. 731.

⁴⁷ L. of handle 7 cm., w. 3.4 cm., dimensions of stamp 4 x 2 cm. Vivliodetis 2007, 79, fig. 124.

⁴⁸ V. Grace, "The Middle Stoa Dated by Amphora Stamps", *Hesperia* 54 (1985), 33 (periods IV A and V). Jöhrens 1999, nos 363, 388, 408, 418 (garrison commander), 530–31, 578, 597,

has the same type of stamp, with the inscription ΕΠΙ/ ΘΕΥΔΟΤΟΥ (eponymous archon and garrison commander) and, in the third line, the ethnic ΚΝΙΔΙΩΝ in genitive plural⁴⁹. Preserved in the first line on the rectangular stamp of handle AMA Inv. no. 2106.α is the name of the eponymous archon, Dionysios (ΕΠΙ ΔΙΟΝΥΣΙΟ[Υ]), in the second line are remnants of the letters Α Φ ή (ρ) Ο Κ(?), from the name of the maker⁵⁰, and in the third is the epithet Knidian (ΚΝΙΔΙΟΝ)⁵¹. Inscribed clockwise around the circumference of the circular stamp AMA Inv. no. 701, in two lines, is Κ[.]ΙΔΙΑΕ[- - -] [- - - -] ΑΤΕΥΣ/[- - - -] ΡΟΣ, and at the centre, represented frontally, is the bucranium usual on Knidian amphorae. A possible completion is Κ[ν]ιδία ἐ[πί] [Τιμασικρ]άτευς [Νικάνο]ρος, as can be ascertained from published similar stamps of the second century BC⁵².

The four knobs of Knidian transport amphorae AMA Inv. nos 2108. α,β and 110. α,γ⁵³, with the characteristic modelled ring at the transition from the body to the solid base, can be dated on the basis of the variations of their shape from the second⁵⁴ till the end of the first century BC⁵⁵.

614-15 (eponymous), 467-68, 568-72 (vase-maker). Étienne and Braun 1986, 242 no. 61 and Grace 1956, 154 no. 131 (eponymous), 156 no. 147 (vase-maker, Corinth). Cf. also J.Y. Empereur - A. Hesse - N. Tuna, "Les ateliers d' amphores de Datca, Peninsule de Cnide", in Y. Garlan (ed.), *Production et commerce des amphores anciennes en Mer Noire* (Aix-en-Provence 1999), 105, 109 fig. 6 and Jefremow 1995, 243.

⁴⁹ L. 7.5 and w. 4.5 cm. For Theudotos, see Grace 1956, no. 133. Jöhrens 1999, 325-326, nos 373, 396 (eponymous period IV A) nos AS 29, 32, 36 (garrison commander of the same period). Cf. Étienne and Braun 1986, 241 no. 48 and Jefremow 1995, 196.

⁵⁰ One possible completion of the maker's name is Aristokles (Α[ΡΙΣΤ]ΟΚ[ΛΗΣ]).

⁵¹ Dimensions l. 13.6, w. 3.8 cm. Dionysios as eponymous and garrison commander is written with the makers Athenaios, Anaxander, Aristokles, Asklepiodoros, Eubolis and Kypros, in the 2nd c. BC, while a later Dionysios holding the same office is attested in the 1st c. BC: Jöhrens 1999, nos 533, 540, 551, 568, 598 and for the Dionysios of the period IV B, see nos 662, 762-763 AS 75-76, as well as for a maker of the same name, nos 585-586. Cf. also Étienne and Braun 1986, 243 no. 84; Grace - Savvatiannou-Petropoulakou 1970, E 142; Jefremow 1995, 186-188.

⁵² In addition to part of the stamped handle, a small part of the rim of the vases is also preserved. Dimensions: l. 7.5, w. 8.5 cm. For stamps of this type, see Grace 1934, 272 no. 209 and for the bucranium, Grace 1934, 200. Jöhrens 1999, nos 635-636. Étienne-Braun 1986, 243-244, no. 87 (with different maker's name).

⁵³ a) Pres. h. 6 and diam. of knob 3 cm. b) pres. h. 8 and diam. of knob 3.3 cm. Both knobs AMA Inv. no. 110 are of pres. h. 6.2-8.35 cm.

⁵⁴ For the three almost identical knobs, see Grace 1934, 202, fig. 1, 6-8. Étienne and Braun 1986, 223, pl. 106, Eb 17. For the variation of the usual type, cf. Whitbread 1995, pl. 4.10; Bezeczky 2004, no. 27 fig. 3.

⁵⁵ The knob AMA Inv. no. 2108.α (pres. h. 6.5, diam. of knob 2.5 cm.), which is marked off from the body by a deep groove, is difficult to attribute to a specific workshop, since similar knobs occur on amphorae from Ephesos, Delos, Rhodes and Athens in the 3rd/2nd c. BC. For

The stamped handles AMA Inv. nos 2107.α and 2105.α should also be attributed to the Knidian amphora workshop. Written on the first, possibly in abbreviated form, is the name ΦΥΛ or ΦΙΛ, from the first century BC⁵⁶, and on the second the incomplete inscription ΕΠΙ ΚΡΟ [- - -], in one line, and the anchor in poor condition, usual symbol of the workshop⁵⁷.

There is one more group of stamps whose content is difficult to identify and attribute to a specific workshop, because of the badly eroded state of the letters and representations⁵⁸.

Apart from stamped amphora handles, many fragments of the body, neck, shoulder and bases of amphorae have been recovered from the site of the agora. The large numbers of double handles of amphorae, of light orangey red clay with fugitive buff or yellow ochre slip that flakes like dust, should be attributed to the Koan workshop⁵⁹, as should two sherds that belong to the same knob and the lower body amphora AMA Inv. no. 1394.α⁶⁰, as well as the fragmentarily preserved amphora AMA Inv. no. 2109 (fig. 13), which is dated on the basis of parallels to the first century BC⁶¹.

amphorae with similar knob, see Lawall 2004, 177-180 fig. 4 (Ephesos-amphorae of Nikandros type). Grace - Savvatiannou-Petropoulakou 1970, 365-367 see similarities between the type and Koan amphorae. Cf. J. Empereur, "Les amphores complètes du Musée d'Alexandrie", *Commerce et artisanat dans l'Alexandrie Hellénistique et Romaine. Actes du Colloque d'Athènes, 11-12 Dec. 1988, BCH* Suppl. 33 (1998), 396 fig. 1 (example from Rhodes).

⁵⁶ For similar stamps, see V. Grace, "Timbres amphoriques trouvés à Délos", *BCH* 76 (1952), 535 no. 12. Etienne and Braun 1986, 252 no. 227.

⁵⁷ Pres. l. of handle 7 cm. Unfortunately, it is not possible to complete the name of the eponymous, on the basis of the published inscriptions. For the symbol of the anchor on Knidian amphorae from the 2nd c. BC, see indicatively Jöhrens 1999, nos 352, 388-395 (period IV.A) and no. 475 (period IV.B).

⁵⁸ These are the stamps on the handles, AMA Inv. no. 2105.β (max. dimension 7.5 cm.) with the barely legible letters K, I, A and M, and the handles AMA Inv. nos 2105.γ (pres. l. 5 cm.) and 2106.γ (circular stamp with indecipherable representation, l. 6.5 cm.). Handle AMA Inv. no. 2107.ε with the letter Σ or M in a circular stamp (l. of handle 8.55 cm.) belongs to an amphora of unknown provenance. The type is encountered in the 3rd/2nd c. BC on amphorae from Corcyra, Thasos and Kourion on Cyprus. Cf. Jöhrens 1999, 259, no. 874; Bon 1957, no. 2220; Meyza 2004, 279, fig. 28.

⁵⁹ For the characteristics of the Koan workshop, see Ch. Kantzia, «Ένα κεραμικό εργαστήριο αμφορέων του πρώτου μισού του 4^{ου} αι. π.Χ. στην Κω», *Γ' Επιστημονική Συνάντηση για την Ελληνιστική Κεραμική, 24-27 Σεπτεμβρίου 1991 Θεσσαλονίκη* (Αθήνα 1994) 332 ff. and Empereur-Hesnard 1987, 22-23.

⁶⁰ Diam. of knob 3.6, l. 7.6, pres. h. 5.5 cm. The amphorae of Rhodes had similar bases, the difference being that they had a longer knob: Whitbread 1995, pl. 4.15.

⁶¹ The present height of the part of the shoulder and the neck, together with the handles, is 32 cm. Vivliodetis 2007, 78, fig. 121. For Koan amphorae of similar type in the same period, see Bezeczky 2004, 92 no. 28 fig. 3. Cf. Robinson 1959, pl. 3, F94 (it is considered Rhodian because of the single handles). In general see V. Georgopoulou, «Κωακοί αμφορείς από την

The amphora AMA Inv. no. 87, which was found in the area of Gavrión and is dated on the basis of typological parallels to the first century AD, belongs to the group of Italian amphorae of type Dressel 6.3. Apulia or Istria is considered the place of production and such amphorae are widely distributed in the Adriatic, the Aegean and the Euxine Pontus⁶².

Some amphorae fragments dating from the third to the seventh century AD attest that the island kept up its commercial contacts during Late Antiquity (fig. 14). These represent different types of amphorae of Aegean provenance, although their centre of production has not been located, which were widely disseminated in the Euxine Pontus, Palestine and the greater Mediterranean region, as far as Britain⁶³.

Thus, the evidence derived from coins and transport amphorae, notwithstanding the fragmentary state of the latter, reveals the broad scope of Andros's contacts in space and time, as well as its flourishing economy throughout Antiquity.

Καρδάμαινα (Αρχαία Αλάσαρνα) της Κω», in G. Kokkorou-Aleura, A. Laimou and E. Simantoni-Bournia (eds), *Ιστορία-Τέχνη-Αρχαιολογία της Κω, Α' Διεθνές Επιστημονικό Συνέδριο, Κως 2-4 Μαΐου 1997* (Athens 2001), 107-113.

⁶² For this type of amphora, see Peacock-Williams 1986, 98-101. Böttger 1992, 323, 365 no. 30, pl. 97.4.

⁶³ The pres. h. of amphora AMA Inv. no. 1502 is 23 cm. See Robinson 1959, 77 L. 33, pl. 16, pl. 28 M237. Keay 1984, 137. For amphorae of this type which survive until the 5th c. AD, see Warner Slane 1990, pl. 15, no. 254. Böttger 1992, 349, 374 (with bibliography). For parallels for the neck of amphora AMA Inv. no. 2104, of pres. h. 14 cm., see Robinson 1959, 68 no. K 111, pl. 15. For the part of amphora AMA Inv. no. 723 (fig. 14), from the end of the 6th c. AD (Vivliodetis 2007, 79, fig. 122), see F. H. Van Doorninck, "The Cargo amphoras on the 7th cent. Yassi Ada and 11th cent. Serce Limani shipwrecks. Two examples of a reuse of Byzantine amphoras as transport jars", *BCH Suppl.* 18 (1989), 249, fig. 1, mainly nos 9-10

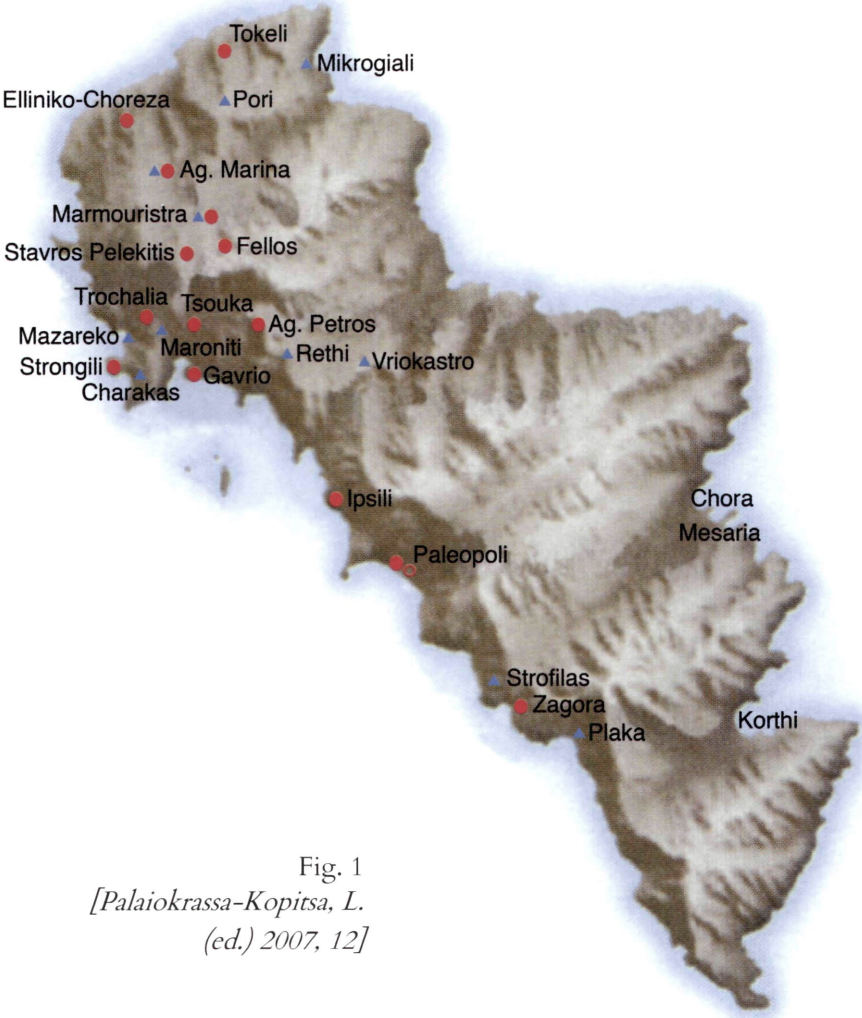


Fig. 1
[Palaiokrassa-Kopitsa, L.
(ed.) 2007, 12]

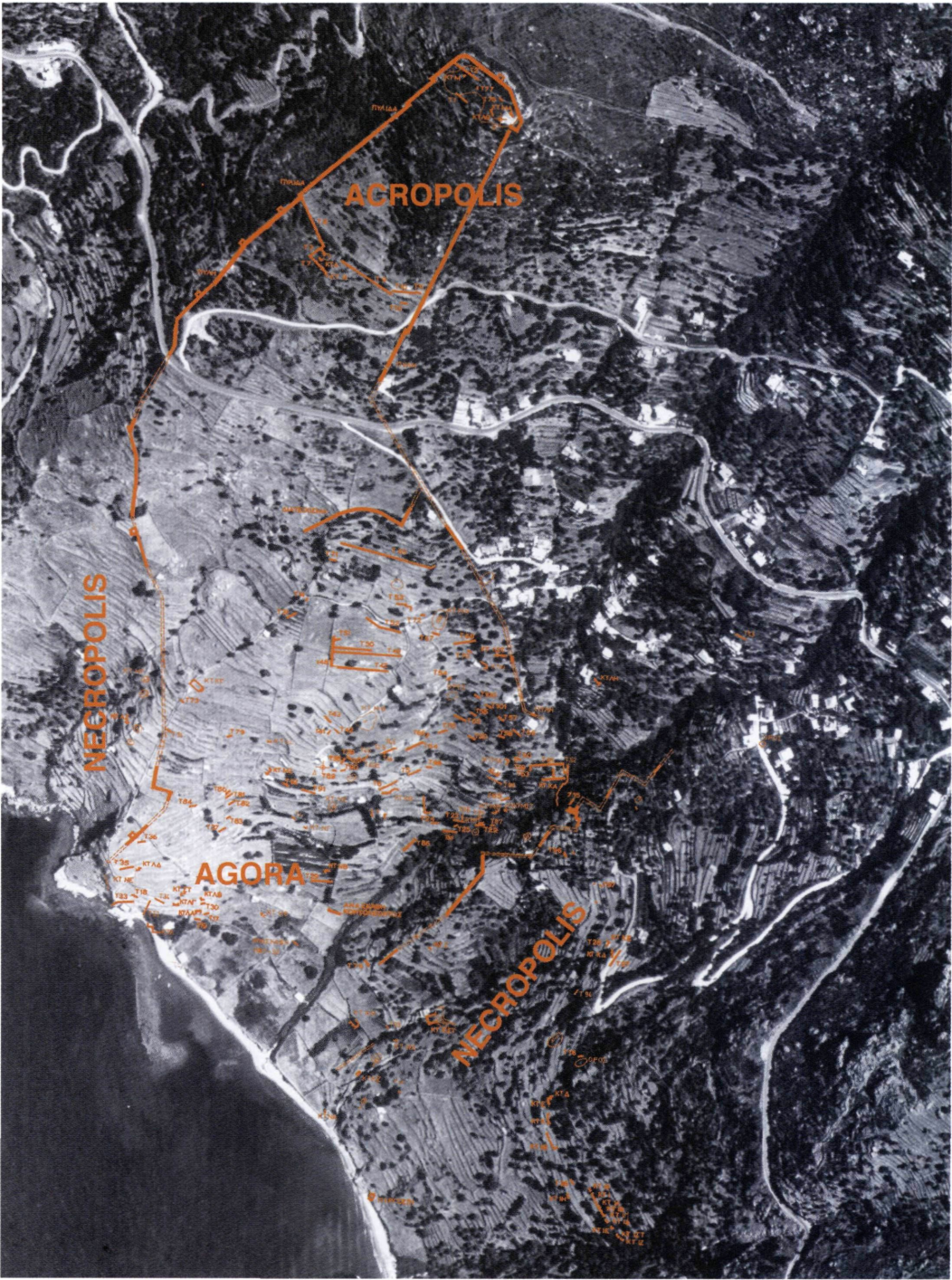


Fig. 2
[Palaiokrassa-Kopitsa, L. (ed.) 2007, 28, fig. 26]



Fig. 3
[Photograph by K. Xenikakis]



Fig. 4
[Photograph by K. Xenikakis]



Fig. 5
[Marathaki, E. (2007), 86, fig. 142]



Fig. 6
[Photograph by P. Magoulas]



Fig. 7
[Photograph by P. Magoulas]

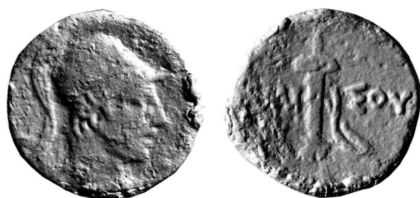


Fig. 8
[Photograph by P. Magoulas]



Fig. 9
[Photograph by P. Magoulas]



Fig. 10
[Photograph by K.-V. von Eickstedt]



Fig. 11
[Photograph by K.-V. von Eickstedt]



Fig. 12
[Photograph by K.-V. von Eickstedt]



Fig. 13
[Photograph by P. Magoulas]



Fig. 14
[Photograph by P. Magoulas]

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*Countermarks
on the hellenistic
coinages of the Cyclades**

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Introduction

THE COINS MINTED IN THE CYCLADES during the Hellenistic period form a source of significant information for the history of the region¹. From the third to the first centuries BC twenty six mints were active at some time on twenty islands, most of them producing bronze coinages². These figures are indicative of the role that coinage should have played in the local economy and society. Due to the absence of coherent evidence, such as coin hoards and finds from precisely dated contexts, the chronology of these coinages has been broadly fixed mainly on stylistic criteria.

A common feature on these coinages, especially the bronze ones, appear to be the countermarks –i.e. the stamps applied to coins by means of engraved punches– observed on a fair number of specimens. The function of countermarks was to revalidate and provide earlier coins with the status of a legal tender. In practice, countermarking was a quick method of restriking coins and putting them afresh into circulation. Thus, countermarked coins bear more than one date of issue. The first one is when the coins were initially made; the other(s) when the countermarks were applied. In the Hellenistic world official countermarks were placed on both silver and bronze coins³. As

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¹ The term Cyclades refers to the islands of the central and southern Aegean, a geographical unit distinct from that of the Dodecanese and Sporades. For a concise treatment of the topic, see Sheedy 2006, 13–19.

² For a survey of the minting activity in the Cyclades, see Sheedy 2006, 2.

³ It is the common view that the early countermarks were private marks of ownership or guarantee of worth; however, during the Hellenistic period countermarking became a monopoly of civic or royal authorities: Mørkholm 1991, 19; Carradice and Price 1988, 98–99; Howgego 1985, 1; Le Rider 1975.

far as the silver is concerned, countermarking of a state's own issues is rare, in contrast to the frequent countermarking of foreign ones. The opposite situation is observed in the bronze coins, where the issuing states often countermarked their own currency⁴.

The purpose of this paper is to present the countermarks applied on the Cycladic coinages of the Hellenistic period and to examine their function in the local economy and society. The main argument is that countermarking is the consequence of broader economic and social circumstances attested also in other archaeological and literary sources.

Countermarks on the Cycladic coins

Countermarks have been detected on the coinages of Aegiale, Arkesine and Minoa on Amorgos, of Andros, of Ios, of Karthaia, Koresia and Ioulis on Kea, of Melos, of Naxos, of Paros, of Seriphos, of Siphnos, of Syros, of Tenos and of Thera.

Amorgos

Aegiale

Two countermarks are to be found on the coinage of Aegiale. A coiled snake was applied on the reverse of the Asklepios / cupping vessel series. A facing owl between the letters A and I was applied on the reverse of three series: (i) Asklepios / cupping vessel, (ii) Athena / cupping vessel, and (iii) Athena / owl. Both countermarks have parallels on the coinage of the city. The snake was used as a symbol while the owl was employed as a reverse type on the bronze series⁵.

Arkesine

Two countermarks appear on the coinage of Arkesine. A facing owl was applied on the obverse, while the monogram AP and the letter I on the reverse of the Athena / ram series. The facing owl, although it is an attribute of Athena, is not included in the coin iconography of Arkesine. The combination of the monogram AP and the letter I, is an abbreviation of the ethnic of the city and appears on some of its issues⁶.

⁴ Mørkholm 1991, 19-20. This is also concluded through the cases mentioned in Carradice and Price 1988, 130-131.

⁵ Liampi 2004, 79-81.

⁶ Liampi 2004, 82-83.

Minoa

A bunch of grapes was applied on the obverse of the Dionysos / kantharos series of Minoa. The type, despite its association with the god of wine, is not included in the local coin iconography.

Andros

Three countermarks appear on the coinage of Andros. A kantharos was applied on the obverse of the Dionysos / thyrsos series. A similar countermark was applied on the reverse of the Dionysos / amphora series. A head of Dionysos was applied on the obverse of the Dionysos / thyrsos series. All the countermarks are directly connected to the local numismatic iconography. The bearded head of Dionysos was employed as the obverse type of four bronze series⁷. The kantharos was used as the reverse type of three bronze series⁸.

Ios

Two main countermarks are to be found on the coinage of Ios. A male head r. was applied on the obverse while an Athena standing r. was applied on the reverse of the Homer / Athena series. From the existence of some specimens countermarked only on the obverse, it can be argued that Athena was employed to reissue the already countermarked series with the male head. Special mention should be made on three other countermarks –a facing head of Helios, a forepart of goat r. and an Athena standing l.– all applied on the reverse of a single specimen of the Homer / Athena series. Apart from Athena, that was used as a reverse type, the other types are not in line with the local coin iconography.

Kea*Karthaia*

A forepart of the dog Sirios r. was applied on the obverse of the Apollo / Sirios series of Karthaia.

⁷ (i) *BMC*, 86: 6. (ii) *BMC*, 86-87: 7-8; *SNG Copenhagen* 601-602. (iii) *SNG Copenhagen* 603. (iv) *BMC*, 88: 20-22; *SNG Copenhagen* 604.

⁸ (i) *BMC*, 86-87: 7-8; *SNG Copenhagen* 601-602. (ii) *SNG Copenhagen* 603. (iii) *BMC*, 87: 9; *SNG Copenhagen* 611-612.

Koresia and Ioulis

A female head l. appears on the obverse of the Apollo / bee series of Koresia as well as of Ioulis. The female head may be that of Ktesylla who was used as an obverse type of two bronze series of Ioulis dated in the first century BC⁹.

Melos

A kantharos was applied on the reverse of three series of Melos: (i) apple / bunch of grapes, (ii) apple / Athena, and (iii) apple / kantharos. Judging from the current sample, it seems that the countermarking was aiming mainly at the apple / Athena series, since it accounts for the majority of the countermarked specimens, without excluding some earlier bronzes that were still around. The kantharos was employed as the reverse type of three bronze series¹⁰.

Naxos

Seven countermarks appear on the coinage of Naxos. Six are to be found on bronze coins and one on a series of silver drachms. An incuse rectangle containing a bunch of grapes and vine leaves was applied on a Dionysos / kantharos issue. A letter Λ or Δ was applied on the Dionysos / krater issue. A head with Corinthian helmet on the Dionysos / krater issue. A thyrsos was applied on the obverse of the Dionysos / kantharos issue. A tripod was applied on the reverse of the Dionysos / krater and thyrsos issue as well as of the Dionysos / volute krater issue¹¹. Finally, a bunch of grapes was applied on the reverse of the drachm issue signed by the magistrate ΑΡΙΣΤΕΑΣ. Only two of the countermarks are connected to the local iconography. The thyrsos was used as a reverse type¹² as well as a symbol¹³ on bronze issues. The bunch of grapes was employed as both an obverse¹⁴ and reverse¹⁵ type as well as a symbol¹⁶ on bronze series.

The countermarked drachms of Naxos –all of them part of the ‘Naxos, 1926’ hoard– are the only Cycladic silver detected so far. The purpose of their countermarking is not clear. Oikonomos argued that the coins were countermarked in order to be in line with bronzes that bear the same reverse¹⁷.

⁹ Papageorgiadou-Banis 1997, 31–32, series XI and XII.

¹⁰ (i) *BMC*, 104: 11–15; *SNG Copenhagen* 683. (ii) *BMC*, 104: 16–19; *SNG Copenhagen* 684.

¹¹ The countermark has been identified as an apple in Oeconomides 1999, 322: 69 and as a monogram in Nicolet-Pierre 1999, 106; Nicolet-Pierre 2005, 38:20, 43:5.

¹² Nicolet-Pierre 2005, 36–37 (grappe 4).

¹³ Nicolet-Pierre 2005, 28–29 (canthare 4); 38–40 (cratère 1–2, 4–5).

¹⁴ Nicolet-Pierre 2005, 36–37 (grappe 4).

¹⁵ Nicolet-Pierre 2005, 34–36 (grappe 1–3).

¹⁶ Nicolet-Pierre 2005, 18–34 (canthare 1–5).

¹⁷ Oikonomos 1928, 30–31.

However, Nicolet has dated the series with Dionysos / bunch of grapes in the second half of the third century BC, i.e. several decades before the issuing of the drachms¹⁸. On the other hand, Nicolet has suggested that this was a private countermark applied on the drachms soon after their minting judging by their relatively fresh condition¹⁹. If this is the case, then it stands out of the majority of the countermarks applied on the Hellenistic silver coinages²⁰.

Paros

Six countermarks are to be found on the coins of Paros. A rosette with four petals was applied on the obverse of the Persephone or Artemis / kneeling goat as well as the Demeter or Persephone / standing goat series. A star with eight radiates was applied on the reverse of the same series. From the existence of some specimens countermarked only on the reverse, it can be argued that the rosette was employed to reissue the already countermarked series with the star. A pomegranate was applied on the reverse of the Demeter or Persephone / standing goat series. Special mention should be made on three other countermarks, all to be found on a single specimen of the Persephone or Artemis / kneeling goat series. A rose²¹ was applied on the obverse while an eagle standing r. and a cithara²² on the reverse. Apart from the star, which was used as a symbol on the Demeter or Persephone / standing goat series²³, all the other countermarks have no parallel on the coinage of Paros.

Seriphos

Two countermarks appear on the coinage of Seriphos. A harpa²⁴ and a thunderbolt were applied each on the obverse of the Perseus / Gorgoneion series. Only the harpa is connected to the local coin iconography; this theme was employed as a regular reverse type on the coinage of the island²⁵.

Siphnos

Two countermarks are to be found on the coinage of Siphnos. A caduceus and a five-radiated star were applied on the obverse of the female head / palm tree issue. None of them is connected to the local coin iconography.

¹⁸ Nicolet-Pierre 2005, 35.

¹⁹ Nicolet-Pierre 1999, 108.

²⁰ Mørkholm 1991, 19–20.

²¹ The countermark has been identified as a forepart of goat in Oeconomides 1999, 325: 89.

²² The countermark has been identified as a dog in Oeconomides 1999, 325: 89.

²³ *BMC*, 116: 32–34; *SNG Copenhagen* 725.

²⁴ The countermark has been identified as a forepart of goat in *SNG Copenhagen* 734.

²⁵ (i) *SNG Copenhagen* 735. (ii) *BMC*, 120: 9; *SNG Copenhagen* 736–737. (iii) *BMC*, 119: 8; *Copenhagen* 738.

Syros

A bee was applied on the reverse of the Pan / goat series of Syros²⁶. The bee was used as an obverse type of a bronze series²⁷.

Tenos

Three countermarks are to be found on the coinage of Tenos. A dolphin r. was applied on the obverse of three series: (i) youthful Zeus Ammon / bunch of grapes, (ii) Poseidon / trident, and (iii) youthful Zeus Ammon / Poseidon. A bunch of grapes was applied on the obverse of the youthful Zeus Ammon / Poseidon series. A star with six radiates was applied on the obverse of two series: (i) Poseidon / trident and dolphins, and (ii) youthful Zeus Ammon / Poseidon with the rose symbol series²⁸. The first two countermarks are connected to the local coin iconography. The bunch of grapes was used as a reverse type of the silver²⁹ and bronze issues³⁰ and apparently functioned as a symbol on silver issues³¹. The dolphin was employed as a reverse type on bronze issues³²; it appears on the reverse of tetradrachms, didrachms and bronzes accompanying Poseidon³³; it is also depicted on either side of a trident on the reverse of some bronze issues³⁴.

Thera

A male head r. was applied on the obverse of the Apollo three-quarter to r. / butting bull series of the island.

²⁶ The one specimen so far bearing the countermark on the obverse should be considered as a mistake in the countermarking process.

²⁷ *BMC*, 124: 16–17.

²⁸ The star was also applied on the obverse of the laureate male head / Poseidon and Amphitrite standing in temple bronze series of Tenos. This series is dated to the beginning of the first century AD according to Étienne 1990, 402 (period IV). Nevertheless, the chronology of this series seems by no means certain. Cf. *RPC I*, 265: 1303.

²⁹ Étienne 1990, 228: 103 (drachms), 227: 105 (hemidrachms), 236: 204 (drachms).

³⁰ Étienne 1990, 229–232: 108–110, 244–245: 212–213.

³¹ Étienne 1990, 235: 202 (tetradrachms), 203 (didrachms).

³² Étienne 1990, 233: 112, 244: 208–211.

³³ Étienne 1990, 226: 102 and 235: 202 (tetradrachms), 235: 203 (didrachms), 243: 207 (bronzes).

³⁴ Étienne 1990, 232: 111, 240–241: 205–206.

Commentary

Thirty eight countermarks have been gathered in the present study. Some appear only once on single specimens, while others are to be found on several coins.

The predominant pattern is that certain countermarks were confined to specific islands. This is a strong indication that each state countermarked its own issues. A couple of types that appear on more than one coinages – a bunch of grapes on coins of Tenos, Minoa and Naxos; a kantharos on coins of Andros and Melos – cannot alter the picture, since they are common themes in the Cycladic numismatic iconography. The case is further supported by the limited hoard evidence. The ‘Naxos 1926’ hoard (*IGCH* 255) contained 15 silver drachms and 3 bronzes of Naxos countermarked respectively with a bunch of grapes and a tripod³⁵. The ‘Paros 1936’ hoard (*IGCH* 326) consists of 560 bronzes of Paros, most of them bearing an apple countermark.

The regular use of countermarks is confirmed for the states of Tenos, Paros, Andros, Naxos, Ios, Melos and Seriphos. Countermarking was more intense on some islands, e.g. Ios and Paros, and involved the application of a new type on already countermarked coins. Occasionally a type was employed to countermark more than one series, as this is testified in the cases of Aegiale, Andros, Melos, Naxos, Paros and Tenos. On the other hand, a series could have been countermarked once by two or even three types and this is the case for Paros, Tenos, Seriphos and possibly Naxos.

On iconographic grounds the countermarks can be divided into two categories. The first consists of those belonging to the repertoire of the local coin iconography. Sometimes the main type or the subsidiary symbol of an issue was employed to countermark older coins. This clearly shows the effort of the issuing authority for the re-evaluation of former editions and to equate them with the new ones³⁶. The countermarking with a thyrsos on a single worn specimen of the Dionysos / kantharos issue of Naxos is the most striking example. The second group contains the countermarks with no direct relation

³⁵ The ‘Naxos 1926’ hoard consists of silver issues of Athens (13 tetradrachms and 18 drachms), Rhodes (8 hemidrachms and 13 drachms) and Naxos (17 drachms) as well as 3 Naxian bronzes. For a description of the hoard see Nicolet-Pierre 1999, 103–108. One of the hemidrachms of Rhodes is countermarked with a bunch of grapes, very similar to that applied on the silver drachms of Naxos in the same hoard. See Nicolet-Pierre 1999, 103–108 for a full description of the hoard and 105:32 for the countermarked Rhodian hemidrachm.

³⁶ In these instances, countermarking could function as a reliable criterion for the internal arrangement of some series, like the coinage of Aigiale. A characteristic example of the employment of countermarks to equate old issues with new ones is provided by Kyme. See Milne 1913, 389–394.

to the local numismatic iconography. Most of the stamps on the coins of Naxos and Paros belong to this category.

The study of the countermarks on largely the bronze coinages of the Cyclades provides an insight to their production and circulation.

The most obvious function of the Cycladic coinages was to provide the region with small change. The pattern of their production shows that they were issues of variable sizes separated by irregular minting intervals. The production of bronzes was highly profitable, on account of their being overvalued to a great extent. At the same time, the possibility that prominent citizens, who took on the financial sponsorship of a variety of things, also assumed the cost of coin production of their cities should not be ruled out³⁷. Thus, it would not be surprising that some states might have tried to increase their income by engaging in periodical demonetizations. The bronzes already in circulation were called in and replaced by a new issue. Under these circumstances demonetized bronze coins probably regained their former status by being countermarked. These measures resulted in old coins circulating alongside new ones, or supplementing issues of small denominations with older coins of bigger size. The use of countermarks to revalue coins and retain them in circulation indicates that this was a response to financial difficulties and to the inadequate supply of bronze coinage. It becomes evident that this practice was the outcome of the islands' effort to use coins in daily transactions without undertaking the financial cost of striking new issues. At the same time, the state might have gained additional profit from a possible fee required for the countermarking process³⁸.

Based on the existing evidence, it cannot be argued with certainty when most of the Cycladic issues were countermarked; the main reason being that these countermarks cannot be dated with accuracy. Their chronology could be deduced from the apparent striking date of the coins as a *terminus postquem* as well as from establishing the period when the financial and social circumstances would require the employment of countermarks.

³⁷ See Liampi 2004, 68 for Amorgos; cf. Howgego 1985, 85.

³⁸ Despite the frequency of the countermarked coins, there are no literary sources from antiquity mentioning this method. The only evidence is provided by the coins themselves. Therefore, important issues, like whether the coins were brought by the public to be countermarked or whether they were in public funds when countermarked or still, whether a fee was charged, cannot be answered. Nevertheless, there is a tendency to assume that a fee was charged, and even that the revenue from fees was the primary reason for countermarking. See Howgego 1985, 2.

Historical background

Throughout most of their history, the Cyclades lived under the control of an external power. In the Hellenistic period, their political fate was largely determined by the inability of the island communities to avoid domination by a constant succession of competing powers, such as the Hellenistic kingdoms, Rhodes, the pirates and the Roman Republic³⁹. Concerning the economy, their situation was determined by their ability to provide for themselves, the availability of trade goods, the movement of people, whether visitors, merchants, pirates, or soldiers and their relation to Delos⁴⁰. Despite the common elements in the economy among the Cyclades, there is variation in the resources of each island. This disparity on the political and economic level is reflected on each island's coin production.

In 315/4 BC many of the Cyclades had been organized in the Nesiotic League under the protection of Antigonos I Monophthalmos and his son Demetrios I Poliorketes. In the mid 280's BC Ptolemy I assumed the patronage of this confederation and the islands remained under Ptolemaic control until the death of Ptolemy II Philadelphus in 246 BC. It appears that during most of the second half of the third century BC the Cyclades enjoyed an interval from foreign domination⁴¹. Towards the end of the century the Macedonian presence in the region was asserted by Philip V when he briefly had the control of Paros, Andros and Kythnos. In 200 BC Rhodes became increasingly attracted to the islands, taking the opportunity presented by the Second Macedonian war to seize them and create a new Nesiotic League headquarters at Tenos. The Cyclades remained under Rhodian control at least until 167 BC. It is within the period of short independence and especially during the period of the Rhodian-led League that most of the islands minted coins in bronze, and some of them in silver⁴².

The presence of the Roman authority in the Aegean since the second century BC raises the question of the status of the Cyclades during the following centuries. The hypothesis that all the islands appear not to have the same political fortunes until the establishment of the Empire could be argued with certainty. Thus, Andros originally was subjected to the Attalids of Pergamon and was later included in the province of Asia; Delos was returned

³⁹ For an account of the political history of the Cyclades, from 314 to 167 BC, see Reger 1994a, 16–20.

⁴⁰ On this topic, see Reger 1994a, 49.

⁴¹ The topic is discussed in detail in Reger 1994b.

⁴² The minting of silver coins in the period of the Rhodian-led League is favoured by Sheedy and Papageorgiadou 1998, 652; Mørkholm 1991, 157 and 162; Liampi 2004, 80 and 96; Nicolet-Pierre 1999. A date around 230–220 BC is proposed in Reger 1994a, 42.

to Athenian control and after 167 BC became a free port; Tenos was annexed to the province of Asia in 129 BC⁴³; Amorgos was handed over to the Rhodians by Sulla in 83 BC⁴⁴. Despite dedications by Roman magistrates exercising provincial authority in Asia found on the islands, the recruitment of judges from Cyclades attested in the cities of Asia Minor and the recorded presence of Roman tax collectors in the region, little can be positively said about the status of the Cyclades as an entity until Vespasian's reign, when they were apparently annexed to the province of Asia⁴⁵.

Cyclades should have reached a peak in terms of prosperity during the second half of the second and early first centuries BC, when the Roman-Levantine trade at Delos brought the material wealth of the island to its apex⁴⁶.

Another factor that has to be taken into account is piracy. Throughout the Hellenistic period pirates put at risk sea-trade, raided islands, and were readily enlisted as freebooters in war⁴⁷. They presented a genuine threat to the ruling power and to the residents of the Cyclades⁴⁸. Hence, both claims and acts to suppress piracy repeatedly recurred. Moreover, some states, like Kea, Paros, Tenos, Andros, Melos, Astypalaia and Anaphe made arrangements, either with the Aetolians or various Cretan cities –both most notorious pirate groups– in order to prevent raids and guarantee their own safety⁴⁹. On the other hand, piracy may have had a positive aspect for the local economy. Not only did it provide a kind of alternative employment for poor islanders, but pirates sold their wares on Delos and other economic centres⁵⁰.

Nonetheless, the situation worsened during the first Mithradatic war (88–86 BC). Mithradates VI of Pontus proceeded to conclude an alliance with the Cyrenean pirates in order to use their naval force as part of his own military machine against Rome. The theatre of war was to take place in the

⁴³ Nigdelis 1990, 161.

⁴⁴ Nigdelis 1990, 218.

⁴⁵ The annexation of the Cyclades to the province of Asia has been argued by Étienne 1990, 127–149. The partition of the islands among the provinces of Achaia and Asia has been suggested by Accame 1946, 234–241.

⁴⁶ For the prosperity of Delos after 166 BC, see Sherwin-White 1984, 32–33; Gruen 1984, 299 and 311–312.

⁴⁷ A detailed analysis of the piracy in the Hellenistic period is provided in de Souza 1999, 43–96.

⁴⁸ Nigdelis 1990, 15, for a decree of the end of second century BC, from Arkesine at Amorgos suffering a severe piratical raid.

⁴⁹ For these contacts, see Nigdelis 1990, 214 and 218; Reger 1994a, 43–44 with previous bibliography.

⁵⁰ The traditional view that piracy was the destructive counterpart of shipping trade as well as a major factor that overly only negative effects on the economy is questioned in Gabrielsen 1999 and Reger 1994a, 30–31 and 261–263.

Aegean, thus causing a lot of disturbance and pressure to the islanders. Military garrisons were installed on many of the Cycladic islands, by both adversaries, in order to impose their will and safeguard important strategic points. It was then that general Archelaos seized control of the Cycladic islands⁵¹ and Delos was sacked by the troops of Mithradates and again in 69 BC by Athenodoros. This proved to be a severe blow to the economic life of the Aegean. At the same time pirates continued using some of the islands as their headquarters and several times Roman squadrons had to intervene, occasionally with success, to prevent them from ravaging an island⁵².

The Roman civil wars burdened even further the Cyclades. Pompey forced the islanders to contribute ships in his fleet during his conflict with Caesar.⁵³ In 42 BC, Mark Anthony gave Andros, Tenos and Naxos to Rhodes as a reward for its friendship and help against his opponent Cassius, while Kea was assigned to the Athenians⁵⁴.

The continuous and fierce military operations held in the Aegean, as well as the greed of certain Roman authorities⁵⁵, caused a severe and long lasting economic and social crisis in the region. This is observed in most of the Cycladic islands. Even when peace prevailed, the majority of their commerce and relevant activities was already in the hands of Roman negotiators; the latter probably enjoyed special treatment and status but did not give to the cities what they ought⁵⁶. The cities facing economic problems were forced to apply to other cities, sanctuaries and bankers for loans, often too difficult to be repaid. The simplistic nature of the civic budgets left the local communities vulnerable in such crises and therefore dependent on the flexibility of private individuals. The predominance of private over public wealth resulted in a handful of rich families assuming eventually all public offices, liturgies and benefactions. Even though the inscriptions referring to such instances are not many, they do reveal the eagerness of wealthy people to fund festivals and public constructions⁵⁷.

This is evident in the examples of Paros and Tenos, two of the most important islands. A source of wealth for Paros were the agricultural products – such as wine– exported to various places, as it is testified by a great number of

⁵¹ Nigdelis 1990, 117 and 218.

⁵² Nigdelis 1990, 219.

⁵³ Nigdelis 1990, 219.

⁵⁴ Nigdelis 1990, 219.

⁵⁵ Nigdelis 1990, 220, for the case of Andros who suffered by Gaius Ouerus.

⁵⁶ Nigdelis 1990, 141.

⁵⁷ The case of a certain Theodosia (daughter) of Philip at Arkesine is indicative of this attitude. She promises to repair the agora, which was *ἐκ πολλῶν χρόνων ἡμελημένην καί πεπτωκυῖα*, or embellish the temples and other constructions of the city. See Nigdelis 1990, 42.

amphorae found in many places, from Athens to Bosphorus and Alexandria⁵⁸. In addition, Paros was also known for its good quality marble. Although the exact income provided by the relating enterprises is not known, it is quite possible that the marble operation was the most profitable for the island⁵⁹. However, in spite of these sources of wealth, which had attracted Italian negotiators⁶⁰, the city appeared to ask for loans during harsh times. In the middle of the first century, in order to pay the debts caused by the Mithradatic and the Civil wars as well as the demands of *demosiones*, the city received a loan from individuals in Crete. Unfortunately, the economic situation did not improve and the city not being able to pay off its debts, sent a noble citizen, Timisifon son of Epianactos, to negotiate the terms of repayment⁶¹.

Tenos, on the other hand, owned an important harbour on the Aegean sea-routes, where a lot of bankers, entrepreneurs and other negotiators were attracted, especially after the destruction of Delos⁶². Unlike most of the Cycladic islands, Tenos has produced a great number of inscriptions concerning its external and internal history during the first century BC. A long decree honouring the Roman banker Leukius Afidius Bassus, provides all the details on the misfortunes fell on the island. According to this decree, during the twenty years period, from the first Mithradatic war to the war of Pompey against the pirates, the Tenians were obliged to get heavy loans in order to pay for their defences and their contributions in money or kind to the Pompeian army⁶³. The Tenians had the opportunity to receive a loan from the family of the Aufidii, who helped the city greatly in paying back its debts after a long period of time⁶⁴.

Conclusions

The countermarks applied on the coinages of the Hellenistic Cyclades are a valuable piece of evidence for the society and economy of the region.

Their study reveals that many island states made regular use of them. The pattern of their employment is not uniform throughout the Cyclades. This is partly due to both the issues available on each island and the needs that

⁵⁸ Nigdelis 1990, 138.

⁵⁹ Nigdelis 1990, 138-139.

⁶⁰ Nigdelis 1990, 141-142.

⁶¹ Nigdelis 1990, 117, 132 and 134.

⁶² Nigdelis 1990, 183-184.

⁶³ Nigdelis 1990, 161-162.

⁶⁴ Nigdelis 1990, 160-162.

each of them had to respond to. The exact date of their application cannot be specified, since they do not bear any chronological indications. Nevertheless, if this practice was mainly associated with introversion and hard times, then the majority of countermarks must have been employed during the first century BC.

In that period, society and economy in the Cyclades declined as a result of the Mithradatic and Civil wars, piracy and chaos that afflicted the area. The destruction of Delos and the long lasting obstruction of the sea-routes had negative effects on the islands' trade. According to the epigraphic evidence, borrowing and benefactions appeared as the major solutions for the impoverished cities in order to meet their needs and their obligations to the ruling power. Nevertheless it seems that these actions were not the only way out from the economic depression. Under these critical circumstances the cities would have taken certain financial measures in order to ensure a stable income for the public treasury. The reissuing of their fiduciary coinages may have been such an alternative procedure. Hence, it is highly probable that certain series of countermarked coins –especially those surviving in large numbers as well as those bearing multiple punches– could be attributed to this tactic. The employment of countermarking in the Cyclades could be compared with similar measures observed in the province of Asia. Many cities found themselves in terrible financial difficulties when they had to pay the indemnity imposed on them by Sulla, after his victory in the first Mithradatic war⁶⁵. Their attempt to raise money included total or partial reissuing of their bronze issues. The clearest evidence of this is provided by the many examples of overstriking and countermarking observed in the coinages of the region⁶⁶.

⁶⁵ On the effects of the payment of Sulla's war indemnity, see Sherwin-White 1984, 247-249 and 252; Kallet-Marx 1995, 289.

⁶⁶ For the cities of Ionia, see Crawford 1985, 196; Kinns 1987, 110. For the cities of Lesbos and especially Mytilene, see Tselekas (forthcoming).

Catalogue of countermarks

The following catalogue is provisional and by no means claims to be exhaustive. It is based on the collections of the Numismatic Museum, the Museum of Cycladic Art and the Alpha Bank, all based in Athens, as well as on various publications such as catalogues of major collections and mint studies. The material is arranged geographically, with the islands in an alphabetical order. Each type of countermark –in bold– is followed by the series it was applied on and the date when these series were allegedly issued. Illustrated coins are indicated with **. The following abbreviations are used:

Athens AAM = Athens, Ancient Agora Museum; Athens AB = Athens, Alpha Bank; Athens NM = Athens, Numismatic Museum; Athens MCA = Athens, Museum of Cycladic Art; Berlin = Staatliche Museen zu Berlin; Cambridge = Cambridge, Fitzwilliam Museum; Copenhagen = Copenhagen, Danish National Museum; Hague = Hague, Royal Coin Cabinet; Leipzig = Leipzig, Antikenmuseum der Universität Leipzig; London = London, British Museum; Milan = Milan, Civiche Raccolte Archeologiche e Numismatiche; Munich = Munich, Staatliche Münzsammlung; New York = New York, American Numismatic Society; Paris = Bibliothèque Nationale; Tenos = Tenos, Archaeological Museum; Winterthur = Winterthur, Staatbibliothek.

Amorgos

Aegiale

1. Coiled snake (rev).

Series: Bearded head of Asklepios with laurel wreath r. / Cupping vessel with a suspension ring; A-I.

Date of issue: Late third – early second century BC.

- Athens AB, 749M; Walker 1978, 55: 749; Liampi 2004, 97: 8d.**
- Athens NM, Soutzos Collection 1199; Liampi 2004, 97: 8e.
- Paris; Liampi 2004, 97: 8c.



2. Owl facing, A-I (rev).

Series: Bearded head of Asklepios with laurel wreath r. / Cupping vessel with a suspension ring; in field l., extended snake.

Date of issue: Early second century BC.

- Athens AB, 748M; Walker 1978, 55: 748; Liampi 2004, 100: 20h.
- Paris; Liampi 2004, 100: 20i.**

- Paris; Liampi 2004, 100: 20k.



Series: Head of Athena with crested Corinthian helmet r. / Cupping vessel with a suspension ring; in field r., coiled snake.

Date of issue: Early second century BC.

- Liampi 2004, 99: 17; Lambros 1870, 355: 14.

Series: Head of Athena with crested Corinthian helmet r. / Owl standing r.

Date of issue: Early second century BC.

- Liampi 2004, 100: 19e; Lindgren 1993, 93: A131c.**



Arkesine

1. Owl facing (obv).

Series: Head of Athena wearing crested Attic helmet r. / Ram standing r. on ground line; APK.

Date of issue: Late third – early second century BC.

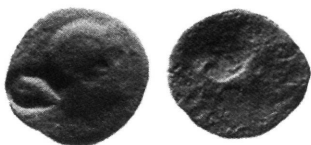
- Athens NM, Artemis Collection; Liampi 2004, 102: 26f.**
- Berlin, 28955; Liampi 2004, 102: 27b.

2. Monogram AP – I (rev).

Series: Head of Athena wearing crested Attic helmet r. / Ram standing r. on ground line; APK.

Date of issue: Late third – early second century BC.

- Athens NM, Artemis Collection; Liampi 2004, 102: 26f.**



Minoa

1. Bunch of grapes (obv).

Series: Bearded head of Dionysos with ivy wreath r. / Kantharos; above, bunch of grapes; M-I N-Ω.

Date of issue: Late third – early second century BC.

- Berlin, Ross; Liampi 2004, 104: 41c.**



Andros

1. Kantharos (obv).

Series: Head of youthful Dionysos with ivy wreath r. / Thyrsos; in field l., bunch of grapes; A-N-Δ-P-I.

Date of issue: Third – first centuries BC.

- Athens MCA, 14; Oeconomides 1999, 319: 12.
- Athens MCA, 15; Oeconomides 1999, 319: 13.
- Athens NM, 4728; Paschales 1898, 314: 28ε.
- Berlin, 25; Paschales 1898, 314: 28α.
- Berlin, 26; Paschales 1898, 314: 28β.
- Berlin, 27; Paschales 1898, 314: 28γ.
- Copenhagen; *SNG Copenhagen* 609; Paschales 1898, 314: 28δ.
- London; *BMC*, 87: 11; Paschales 1898, 314: 28στ.**
- London; *BMC*, 87: 12; Paschales 1898, 314: 28ζ.
- London; *BMC*, 87: 13; Paschales 1898, 314: 28η.



2. Kantharos (rev).

Series: Head of youthful Dionysos with ivy wreath r. / Amphora; A-N-Δ-P-I.

Date of issue: Third – first centuries BC.

- Athens AB, 754M; Walker 1978, 55: 754.
- Berlin, 16; Paschales 1898, 315: 30α.**
- Berlin, 20; Paschales 1898, 315: 30β.
- London; *BMC*, 86: 5; Paschales 1898, 315: 30γ.



3. Head of Dionysos r. (obv).

Series: Head of youthful Dionysos with ivy wreath r. / Thyrsos; in field r., bunch of grapes; A-N-Δ-Π.

Date of issue: Third – first centuries BC.

- Athens AAM, OO-97a; Kroll 1993, 249: 823b.
- Athens NM, 4730; Paschales 1898, 318: 46ε.
- Athens NM, Christomanos Collection.
- Berlin, 29; Paschales 1898, 318: 46γ.
- Berlin, 30; Paschales 1898, 318: 46δ.
- Berlin, Löbbecke; Paschales 1898, 318: 46α.**
- London; *BMC*, 87: 17; Paschales 1898, 318: 46ζ.
- Milan; Paschales 1898, 318: 46β.
- Paris, 3103; Paschales 1898, 318: 46στ.



Ios

1. Male head r. (obv).

Series: Bearded head of Homer r.; OMHPOY / Athena advancing r., holding shield and spear; IHTΩN.

Date of issue: Second – first centuries BC.

- Athens MCA, 40; Oeconomides 1999, 320: 25.
- London; *BMC*, 101: 1.
- Athens NM, 4770β.
- Athens NM, 4773.
- Athens NM, Soutzos Collection 1227.
- London; *BMC*, 101: 2.**
- London; *BMC*, 101: 3.
- Athens MCA, 43; Oeconomides 1999, 320: 27.



2. Athena standing r. (rev).

Series: Bearded head of Homer r.; OMHPOY / Athena advancing r., holding shield and spear; IHTΩN.

Date of issue: Second – first centuries BC.

- Athens NM, 4770β.
- Athens NM, 4773.
- Athens NM, Soutzos Collection 1227.
- London; *BMC*, 101: 2.

- London; *BMC*, 101: 3.**



3. Head of Helios facing (rev).

Series: Bearded head of Homer r.; OMHPOY / Athena advancing r., holding shield and spear; IHTΩN.

Date of issue: Second – first centuries BC.

- Athens MCA, 43; Oeconomides 1999, 320: 27.**

4. Athena standing l. (rev).

Series: Bearded head of Homer r.; OMHPOY / Athena advancing r., holding shield and spear; IHTΩN.

Date of issue: Second – first centuries BC.

- Athens MCA, 43; Oeconomides 1999, 320: 27.**

5. Forepart of goat r. (rev).

Series: Bearded head of Homer r.; OMHPOY / Athena advancing r., holding shield and spear; IHTΩN.

Date of issue: Second – first centuries BC.

- Athens MCA, 43; Oeconomides 1999, 320: 27.**



Kea

Karthaia

1. Forepart of the dog Sirios r. (obv).

Series: Head of Apollo with laurel wreath r. / Forepart of Sirios l.; beneath, bee; KAPΘA.

Date of issue: Third century BC.

- Cambridge; Papageorgiadou-Banis 1997, 99: 106c.**



Koresia

1. Female head l. (obv).

Series: Head of Apollo with laurel wreath r. / Bee; KO-PH.*Date of issue:* Late third century BC.

- Athens AAM, T-37a; Kroll 1993, 252: 837a.
- Copenhagen; Papageorgiadou-Banis 1997, 81: 82.
- Hague, 4842; Papageorgiadou-Banis 1997, 81: 79.**

*Ioulis*

1. Female head l. (obv).

Series: Head of Apollo with laurel wreath r. / Bee; IOY-ΛΗ.*Date of issue:* Late third century BC.

- Athens NM, 4753δ.

Melos

1. Kantharos (rev).

Series: Apple / Bunch of grapes.*Date of issue:* Third century BC.

- Classical Numismatic Group Mail Bid Sale 60 (22/05/2002), lot 597b.**

*Series:* Apple / Kantharos with bunch of grapes hanging from each handle.*Date of issue:* Third - first centuries BC.

- Athens MCA, 44; Oeconomides 1999, 321: 51.**

*Series:* Apple / Athena advancing r., holding shield and spear.*Date of issue:* Third - first centuries BC.

- Athens AB, 784M; Walker 1978, 57: 784.
- Athens MCA, 50; Oeconomides 1999, 321: 53.
- London; *BMC*, 105: 27.

- Classical Numismatic Group Mail Bid Sale 60 (22/05/2002), lot 597a.**



Naxos

1. Bunch of grapes and vine leaves in an incuse rectangle (rev).

Series: Head of youthful Dionysos with ivy wreath r. / Kantharos; above, bunch of grapes; N-A-Ξ-I.

Date of issue: Third – first centuries BC.

- Berlin; Nicolet-Pierre 2005, 32 and pl. IV, canthare 6.**



2. Λ or Δ (rev).

Series: Head of youthful Dionysos with ivy wreath r. / Krater between two thyrsi; N-A-Ξ-I.

Date of issue: Third – first centuries BC.

- Athens NM, 278; Nicolet-Pierre 2005, 40: 2.**



3. Head with Corinthian helmet (rev).

Series: Head of youthful Dionysos with ivy wreath r. / Krater between two thyrsi; N-A-Ξ-I.

Date of issue: Third – first centuries BC.

- London; *BMC*, 111: 16; Nicolet-Pierre 2005, 40: 5.**



4. Monogram (obv).

Series: Head of youthful Dionysos with ivy wreath r. / Bunch of grapes; N-A-Ξ-I.

Date of issue: Second half of third century BC.

- London, Fox 1920, 1577; Nicolet-Pierre 2005, 35: 9.**



5. Thyrsos, N-A / Ξ-I (obv).

Series: Bearded head of Dionysos with ivy wreath r. / Kantharos.

Date of issue: Third – first centuries BC.

- New York, 166; Nicolet-Pierre 2005, 31, pl. III, 10.**



6. Tripod (rev).

Series: Head of youthful Dionysos with ivy wreath r. / Krater and thyrsos; N-A-Ξ-I.

Date of issue: Third – first centuries BC.

- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999 (countermark: monogram), 106 and pl. XX, 53; Nicolet-Pierre 2005, 38: 20.



Series: Bearded head of Dionysos with ivy wreath r. / Volute krater; above, bunch of grapes; N-A-Ξ-I.

Date of issue: Third – first centuries BC.

- Athens MCA, 58; Oeconomides 1999, 322: 69 (countermark: pomegranate); Nicolet-Pierre 2005, p. 43: 5 (countermark: monogram).**
- Athens MCA, 57; Oeconomides 1999, 322: 66; Nicolet-Pierre 2005, 43.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 106 and pl. XX, 54; Nicolet-Pierre 2005, 43: 6.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 106 and pl. XX, 55; Nicolet-Pierre 2005, 43: 7.
- Berlin, v. Rauch; Nicolet-Pierre 2005, 43: 4.



7. Bunch of grapes (rev).

Denomination: Drachm

Series: Head of youthful Dionysos with ivy wreath r. / Krater with wreath; in field l., ΑΡΙΣΤΕΑΣ; in field r., horse head and ΝΑΞΙ.

Date of issue: Second half of second century BC.

- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 56.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 57.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 58.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 61.

- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 62.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 63.**
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 64.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 65.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 66.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 67.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 68.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 102 and pl. XX, 69.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 103 and pl. XX, 70.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 103 and pl. XX, 72.
- Athens NM, 'Naxos 1926' hoard; Nicolet-Pierre 1999, 103 and pl. XX, 73.



Paros

1. Star with eight radiates (rev).

Series: Head of Persephone or Artemis r. / Goat kneeling r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 75; Oeconomides 1999, 322: 82.
- Athens NM, AE 682.
- Athens MCA, 74; Oeconomides 1999, 323: 83.
- Athens NM, Artemis Collection.
- Athens NM, Artemis Collection.



Series: Head of Demeter or Persephone r. / Goat standing r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 76; Oeconomides 1999, 323: 84.
- Athens NM, 4796.
- Athens NM, 4797.
- Athens NM, 1897-8 ΚΔ 8.

2. Rosette with four petals (obv).

Series: Head of Persephone or Artemis r. / Goat kneeling r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 75; Oeconomides 1999, 322: 82.**

- Athens NM, AE 682.



Series: Head of Demeter or Persephone r. / Goat standing r.; ΠΑΠΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 76; Oeconomides 1999, 323: 84.**
- Athens NM, 4796.
- Athens NM, 4797.
- Athens NM, 1897–8 ΚΔ 8.



3. Pomegranate (rev).

Series: Head of Demeter or Persephone r. / Goat standing r.; ΠΑΠΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 79; Oeconomides 1999, 323: 85.
- Athens MCA, 80; Oeconomides 1999, 323: 89.**
- Athens NM, 4798.
- Athens NM, 4799.
- Athens NM, 4800.
- Athens NM, 1893–4 ΚΣΤ 1.
- Athens NM, 1896–7 IB 576.
- Athens NM, 1896–7 IB 579.
- Athens NM, 1898–9 Θ 1.
- Athens NM, 1898–9 Θ 2.
- Athens NM, 1904–5 IA 68.
- Athens NM, Empedokles Collection.
- Athens NM, Artemis Collection.
- Leipzig; *SNG Leipzig* 1042.
- London; *BMC*, 116: 35.
- London; *BMC*, 116: 36.
- Lindgren 1989, 1803.



4. Rose (obv).

Series: Head of Persephone or Artemis r. / Goat kneeling r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 80; Oeconomides 1999, 323: 89.**

5. Eagle standing r. (rev).

Series: Head of Persephone or Artemis r. / Goat kneeling r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 80; Oeconomides 1999, 323: 89.**

6. Cithara (rev).

Series: Head of Persephone or Artemis r. / Goat kneeling r.; ΠΑΡΙ.

Date of issue: Third – first centuries BC.

- Athens MCA, 80; Oeconomides 1999, 323: 89.**



Seriphos

1. Harpa (obv).

Series: Head of Perseus with winged helmet r. / Gorgoneion; beneath, harpa; ΣΕ.

Date of issue: Second – first centuries BC.

- Athens AB, 784M; Walker 1978, 57: 797.
- Athens MCA, 84; Oeconomides 1999, 323: 94.**
- Athens NM, Artemis Collection.
- Athens NM, Empedokles Collection.
- Copenhagen; *SNG Copenhagen* 734.



2. Thunderbolt (obv).

Series: Head of Perseus with winged helmet r. / Gorgoneion; beneath, harpa; ΣΕ.

Date of issue: Second – first centuries BC.

- Athens NM, 579.
- Athens NM, 580.
- Athens NM, 1915-6 E 1.
- Athens NM, Artemis Collection.
- Athens NM, Artemis Collection.

Siphnos

1. Caduceus (obv).

Series: Head of Artemis(?) r. / Palm tree; ΣΙ-ΦΝ.

Date of issue: Third – first centuries BC.

- Athens MCA, 92; Oeconomides 1999, 323: 100.**

2. Star with five radiates (obv).

Series: Head of Artemis(?) r. / Palm tree; ΣΙ-ΦΝ.

Date of issue: Third – first centuries BC.

- Athens MCA, 92; Oeconomides 1999, 323: 100.**



Syros

1. Bee (rev).

Series: Bearded head of Pan r. / Goat standing r.; in front, wheat-ear; ΣΥ-ΠΙ.

Date of issue: Third – first centuries BC.

- Athens AAM, OO-1261; Kroll 1993, 253: 847a.
- Athens NM, Artemis Collection.
- Copenhagen; *SNG Copenhagen* 755.
- London; *BMC*, 124: 10.**
- London; *BMC*, 124: 11.
- London; *BMC*, 124: 12.



1a. Bee (obv).

Series: Bearded head of Pan r. / Goat standing r.; in front, wheat-ear; ΣΥ-ΠΙ.

Date of issue: Third – first centuries BC.

- Athens NM, 589.

Tenos

1. Dolphin r. (obv).

Series: Head of youthful Zeus Ammon with laurel wreath r. / Bunch of grapes; in field l., trident; Τ-Η-Ν-Ι.

Date of issue: 288-250 BC.

- London; *BMC*, 128: 9; Étienne 1990, 230: 109.14.
- Hague, 4888; Étienne 1990, 231: 109.47.**
- Paris, 459; Étienne 1990, 231: 109.80.



Series: Head of Poseidon with laurel wreath r. / Trident; on each side of its handle, dolphin; T-H-N-I.

Date of issue: Late third century – 188 BC.

- Athens NM, Empedokles Collection.
- Leipzig; *SNG Leipzig* 1045.**
- London; *BMC*, 129: 21; Étienne 1990, 240: 205.61.
- Paris, Delepierre Collection; Étienne 1990, 240: 205.55.
- Paris, 482; Étienne 1990, 240: 205.63.



Series: Head of youthful Zeus Ammon with laurel wreath r. / Poseidon standing l., holding dolphin and trident; in field l., rose; THNION.

Date of issue: Late third century – 188 BC.

- Milan, Rosa Collection; Étienne 1990, 241: 207.22.

2. Bunch of grapes (obv).

Series: Head of youthful Zeus Ammon with laurel wreath r. / Poseidon standing l., holding dolphin and trident; in field l., rose; THNION.

Date of issue: Late third century – 188 BC.

- Athens NM, 1908-9 Λ12 9; Étienne 1990, 241: 207.8.
- Munich; Étienne 1990, 241: 207.10.
- Berlin, 9068; Étienne 1990, 241: 207.12.**
- New York; Étienne 1990, 242: 207.30.
- New York; Étienne 1990, 242: 207.32.
- Copenhagen; *SNG Copenhagen* 785; Étienne 1990, 242: 207.38.
- New York; Étienne 1990, 242: 207.42.
- London; *BMC*, p. 130, 32; Étienne 1990, 242: 207.47.
- Athens NM, Π 516; Étienne 1990, 242: 207.48.
- London, G 703; Étienne 1990, 242: 207.53.
- Étienne and Braun 1986, 261: 22; Étienne 1990, 242: 207.54.
- London, 1920-8-5 1595; Étienne 1990, 242: 207.57.

- Milan, Rosa Collection; Étienne 1990, 242: 207.63.
- New York; Étienne 1990, 242: 207.64.
- London; *BMC*, 130: 29; Étienne 1990, 243: 207.77.
- Athens NM, 4816α; Étienne 1990, 243: 207.78.
- Étienne 1990, 243: 207.87.
- Athens MCA, 108; Étienne 1990, 243: 207.89; Oeconomides 1999, 324: 116.
- Athens NM, 1908-9 ΙΔ 37; Étienne 1990, 243: 207.99.
- Athens NM, 1908-9 Λ12 9.
- Athens NM, 4816αβ; Étienne 1990, 243: 207.100.
- Athens NM, 1908-9 ΙΔ 120; Étienne 1990, 243: 207.100a.
- Berlin, Friedlander Collection; Étienne 1990, 243: 207.106.
- Leipzig; *SNG Leipzig* 1047.
- Étienne and Braun 1986, 261: 27.
- Étienne and Braun 1986, 261: 28; Étienne 1990, 243: 207.108.
- Étienne and Braun 1986, 261: 29; Étienne 1990, 243: 207.109.
- Étienne and Braun 1986, 261: 30; Étienne 1990, 243: 207.110.
- Tenos, 227; Étienne 1990, 243: 207.111.
- Tenos, 226; Étienne 1990, 243: 207.112.
- Tenos, 235; Étienne 1990, 243: 207.113.
- Athens AAM, KK-278a; Étienne 1990, 246: 6; Kroll 1993, 254: 851a.
- Athens AAM, ΣΑ-46; Étienne 1990, 246: 3; Kroll 1993, 254: 851b.

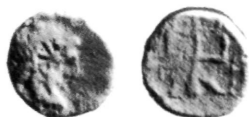


3. Star with six radiates (obv).

Series: Head of Poseidon with laurel wreath r. / Trident; on each side of its handle, dolphin; T-H-N-I.

Date of issue: Late third century – 188 BC.

- Munich; Étienne 1990, 240: 205.80.**
- Tenos, 218; Étienne 1990, 240: 205.88.



Series: Head of youthful Zeus Ammon with laurel wreath r. / Poseidon standing l., holding dolphin and trident; in field l., rose; THNIQN.

Date of issue: Late third century – 188 BC.

- Munich; Étienne 1990, 241: 207.27.
- Paris, 477; Étienne 1990, 242: 207.34.
- Hague, 4903; Étienne 1990, 242: 207.35.
- Étienne and Braun 1986, 261: 26; Étienne 1990, 243: 207.106a.

- Tenos, 229; Étienne 1990, 243: 207.114.
- Winterthur; Bloesch 1988, 218: 2320.



Thera

1. Male head r. (obv).

Series: Head of Apollo three-quarter facing to r. / Bull butting r.; ΘΗ.

Date of issue: Third- second centuries BC.

- Athens NM, 4822.

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Angeliki Katsioti

*Aspects of the economic
and commercial activity of Rhodes
during late antiquity: The case of lamps**

Ὅναρ τα πάντα και σκιά κουδέν πλέον...
ψυχή δε αιθέριον κατέχει πόλον

στη μνήμη του Θοδωρή Αρχοντόπουλου

THE CITY OF RHODES, "full of fields and groves" (*πεδίων και άλσῶν μεσση*)¹, was an important port in the Hellenistic period. Although its political role was significantly curtailed in Roman times, it continued to be a major node of transit trade in the Mediterranean basin. The transition from Late Roman to Early Christian Rhodes² was marked by the earthquake in AD 515, which was particularly destructive. The city shrank, its streets laid out on the Hippodamian grid system were encroached upon and large basilicas were erected on the site of ancient sanctuaries. Rescue excavations in recent years have brought to light a considerable part of the splendid ancient city, with its houses, villas, streets and extensive cemeteries³, while numerous finds have also been collected. The decision to deal with a specific part of the city's material culture remains, the lamps, so far virtually unknown in the bibliography⁴, was motivated by the preliminary researches of our prematurely lost colleague Thodoris Archontopoulos. Our investigations in the storerooms of the local Ephorate of Antiquities, with the aim of publishing a corpus of the Late Roman and Early

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¹ Aelius Aristides, *Ροδιακός*, 25.6.

² For Rhodes in Late Antiquity, see mainly Kollias 2000, 299-308. Konstantinopoulos - Kollias 1968, 260-265. Bairami 2006.

³ For the urban-planning and the houses of the ancient city, see Höpfner - Schwandner 1994, 51-67. For the Hellenistic fortification of Rhodes, see Philimonos-Tsopotou 2004, 71-72. For the necropolis of Rhodes, see Fraser 1971, 1-8; Patsiada 2001, 32-39.

⁴ See Bairami, *op. cit.* Katsioti 2006. Also Kollias 2004, figs 7, 31, 32, 36, 57, 63. Apart from the very few references in the *Archaiologikon Deltion*, see also Karantzali - McGeorge 2000, pl. 57 α, β.; Blinkenberg 1931, pl. 151. For lamps from the Dodecanese in general, see Bailey 1988, 495-496, from excavations in Kalymnos, now in the British Museum. Roumeliotis 2001, 255-275: lamps from Kardamaina, Kos.

Christian lamps of Rhodes, increased the number of lamps of this period to over one thousand. The inventorying of these gave us the opportunity to draw the first conclusions regarding the frequency of appearance and the dissemination of specific types, and led us to ascertain some facets of the trade and economy of Rhodes from the late second to around the mid-seventh century AD. Factors such as the clay fabric, the decoration, the existence of the workshop signature, the quality of the lamps⁵, are decisive for classifying them as local or imported products. The relatively secure attribution of the majority of the lamps examined to these two classes will be based on the results of clay analyses, which are pending. The present contribution is preliminary and epigrammatic in character, and aims at presenting the changes over time in artistic taste and the preferences of the particular market, in conjunction with the ease of transport and the accessibility. In other words, it deals exclusively with the outcome of this process, rather than with the reasons and the economic terms associated with it.

Dating the lamps found in Rhodes presents many difficulties. Unfortunately, there are no closed context assemblages, while the discovery of the overwhelming majority in tombs is of little help, since in Rhodes it is extremely common for tombs of the Hellenistic, but mainly the Roman period, to be used for successive burials over long intervals of time through the centuries.

Already in the second and until the third century AD, the Corinthian lamps⁶ (Broneer's type XXVII)⁷ of exceptionally refined appearance and careful finish dominated the Mediterranean markets. Their innovative decorative subjects and high-quality execution explain their presence in Western Greece, as well as in Delos, Egypt and Asia Minor⁸. As has also been remarked, large numbers of lamps of this type, most of them imports from Corinth but also many imitations, indicative of the preference the original products enjoyed, have been found in the area of Sidi Khrebish, Benghazi⁹. In general, however, we lack the percentages in large excavation assemblages, essential for understanding the penetration of Corinthian lamps into the local markets. For example, the Corinthian lamps in Rhodes (fig. 1) are not found in large numbers. Indeed, to be precise, they represent less than 5% of the total. Their rela-

⁵ Harris 1980, 126-145, had already noted the methodological error of classing the inferior quality products as local and the high quality ones as imported, but one has to accept that it would be difficult for poorly-made lamps to hold their own in discerning markets such as that of Rhodes, particularly if transport costs are taken into account.

⁶ For collected bibliography on Corinthian lamps, see Williams 1981, appendix II, 90-91.

⁷ For the classification of the lamps into types, see Broneer 1930; Broneer 1977.

⁸ For the spread of Corinthian lamps, see Broneer 1977, 64-72.

⁹ Bailey 1985, 102-111.

tively feeble penetration into the local market is also confirmed by the negligible percentage of Rhodian imitations of Corinthian lamps¹⁰. It is therefore deduced that in Rhodes at least, they were never products for wide consumption. Although it is known that these lamps were never mass-produced items, the possibility of their purchase *in situ*, as good-quality items of everyday use, cannot be ruled out. Interesting in this perspective are the parameters of such ascertainties that examine Corinthian lamps as a collectors' pieces, a kind of souvenir acquired during journeys¹¹.

The imported Corinthian lamps in Cyprus in the same period far outnumber those in Rhodes. This is confirmed also by the locally-made imitations of Broneer's type XXVII, which have been found in excavations on the island¹². Some of these imitations by eponymous Cypriot lamp-makers reached Rhodes. For example, two lamps by Platon¹³ have been found (ΠΧ 1528 [fig. 2], ΠΧ 2012), while in some other lamps the workmanship, the kind of clay and the unformed base point to the direction and the constructional choices of Cyprus. It appears therefore that the Corinthian lamps on Rhodes are fortuitous finds and local imitations do not appear to have survived. Nevertheless the Corinthian types are present in satisfactory numbers through the Cypriot lamps, which simultaneously confirms mercantile relations between Rhodes and Cyprus during the second and third centuries AD.

In the course of the third century AD¹⁴, Attic lamps supplanted the Corinthian in markets everywhere. The break due to the destruction of Athens – and by extension of its commercial activity – by the Heruls in AD 267, was temporary. Athens was quick to exploit the pre-existing and receptive markets of Corinthian products, and to expand to new ones, initially with faithful reproductions of Broneer's type XXVII, and subsequently with its own artistic products. However, throughout the third century AD, when the production of Athenian lamps was at its zenith, the exports to Rhodes, as will become clear in the publication of all the lamps, was less than in the next century, as was the case in other parts of Greece¹⁵. It is also not clear, judging by the numbers of Attic lamps in Rhodes before the fourth century AD, whether

¹⁰ This class, which has not yet been defined precisely, needs to be confirmed by clay analyses.

¹¹ Bruneau 1977, 262–265. Bruneau; 1980, 31.

¹² Oziol 1977, 194–196; Bailey 1988, 298–299.

¹³ Of interest is the dispersal of products of this workshop outside the markets of Cyprus: Cesnola 1882, 285, no. 8; Hellmann 1985, 41, no. 40; and Rhodes, in those of the Black Sea: Waldhauer 1914, no. 464, from Cherson; Cicikova 1961, 311–312, no. 5, photo. 1, from Odessos.

¹⁴ See mainly Perlzweig 1961, 17–18. Subsequently, she revised her views on the dates of the Attic lamps: Butcher 1982, 138–139.

¹⁵ Perlzweig 1961, 20–21; Williams 1981, 52.

these arrived randomly, probably in the possession of travellers, or through organized trading activity. The same has been noted for the imported Attic lamps found in Ephesos, where the earliest lamp is dated to the first half of the fourth century, but the main bulk of the material dates to the second half of the fourth and the early fifth century¹⁶. From the early fourth century AD onwards, Rhodes was, according to the finds, a loyal customer for Attic products. It can be said with certainty that very few lamps of this period come from elsewhere. The first imitations of Attic lamps identified on the island are dated in this century, possibly towards its close¹⁷.

A few eponymous workshops are represented in the Attic lamps found on Rhodes, while the main volume of the material is anonymous. The lamps from the workshops of Leonteus (Π 2636 [fig. 3]) and Eutyches (ΠX 1535), of the early fourth century AD, are perhaps the earliest. The strong presence of Attic lamps reflects the complete absence of any other organized lamp trade¹⁸ except that of Attica, until the fifth century AD¹⁹. However, from the fifth century AD, Attic lamp production, although successfully competing with North Africa and then Asia Minor, lost a large part of its dominance. In Rhodes, as in the whole of the Mediterranean, there was a marked decline in the imports of Attic lamps. This fact should probably be associated with the growing manufacture of local products, which in their turn led to the reduction of imports. The host of local products indicates that they covered the needs of the market, in direct competition with mainly Attic lamps. As has been argued already²⁰, Attic lamps held their own in the markets of the Aegean islands until the late fifth-early sixth century AD, but it seems that already from the mid-fifth century AD they became increasingly rarer, even though isolated examples are still found in the seventh century (e.g. ΠX 1533, [fig. 4])²¹. It has been suggested²², as will be seen below, that in Rhodes this gap between the Attic lamps and imported Asia Minor lamps, from the end of the fourth to around the middle of the sixth century AD, was partially filled by the local production of lamps copying mainly Attic types. The final decline and gradual disappear-

¹⁶ Karivieri 1996, 262.

¹⁷ This is the class with the appliqué strap handle (Katsioti, *op. cit.*), which however represents only a part of the local production.

¹⁸ Roumeliotis (Roumeliotis 2001, 264-265) had already posed the question whether the lamp trade should be separated from the organized trade of other pottery.

¹⁹ For the export trade of Attica until the 5th-6th century AD, see Karivieri 1996, 255-271.

²⁰ Karivieri 1996, 260.

²¹ ΠX 1533 possibly represents the latest imported Attic lamps, although in this advanced period we are not speaking about organized imports from Attica, but about a fortuitous find, for which there are unfortunately no data.

²² Katsioti 2006.

ance of Attic lamps on Rhodes, in the sixth century AD, is apparent not only from the paucity of Attic lamps but also by the sheer quantity of imports from Asia Minor, which attest the orientation towards the markets of that region. This phenomenon seems common to all the islands close to the Asia Minor coast, such as Kalymnos²³, Kos²⁴ and Samos²⁵.

The presence of Cypriot lamps in Late Roman (5th c. AD) Rhodes is scant. They represent less than 5% of the total, which is difficult to explain, given that the sea routes between Rhodes and Cyprus were busy until about the mid-seventh century AD²⁶. Furthermore, the presence of Cypriot Late Roman D pottery (Cypriot Red Slip Ware)²⁷ in the city of Rhodes from at least the fifth century AD is not insignificant²⁸ and indeed exceeds in percentage North African ARSW (African Red Slip Ware)²⁹. Most probably Cypriot lamps, in contrast to other Cypriot artefacts, were products not worthy of export and those found in Rhodes arrived there by chance.

From the amount of material and the local imitations of the popular types, it is obvious that North African lamps –like the imported North African pottery– were never widely disseminated on Rhodes (fig. 6). In fact, despite their enormous penetration into Mediterranean lands, on Rhodes they account for less than 5% of the total and are for the most part imitations. We do not know their percentage in Kos, but judging by the published lamps from Alasarna it is possibly slightly higher³⁰. It is obvious that North African products were not economically viable, because of the distances that had to be covered in order for them to enter the island markets, and were not preferred. The issue of the imitations of North African lamps, which in other regions is especially interesting³¹, is of less significance on Rhodes, since it is directly correlated with the imports. It is obvious that, beyond the importance of imports for the local economies, the popularity of this particular category is reflected,

²³ Bailey 1988, *passim*. We also have in mind the finds and the collected material from the island (unpublished), which material will be exhibited the Kalymnos Archaeological Museum.

²⁴ Roumeliotis 2001, 255–257.

²⁵ Poulou-Papadimitriou 1986, 583–610.

²⁶ Bakirtzis 1997, 327–332.

²⁷ For the North African pottery (ARSW, African Red Slip Ware), the pottery of Phocaea (Late Roman C), Cyprus (Late Roman D, Cypriot Red Slip Ware), see mainly Hayes 1972; Hayes 1980. Also Sodini 2000, 181–207, with recent bibliography.

²⁸ See similar conclusions also for the percentages of pottery-lamps at Alasarna on Kos, Roumeliotis 2001, 264.

²⁹ Personal observation from the unpublished finds from excavations in Rhodes. For Kos and specifically the area of ancient Alasarna, see Roumeliotis 2005, *passim*; Roumeliotis 2001, 264.

³⁰ Roumeliotis 2001, 268, diagram 2.

³¹ E.g. in Corinth, see Lindros-Wohl 1994, 135–138.

apart from the original imports of each region, in the copies³². The absence of North African pottery and by extension lamps has been correctly interpreted by the relegation of Rhodes, as well as other Aegean regions in the same zone, to the secondary sea lanes along which probably products of local ambit were traded via relatively short distances³³.

So far we have dealt exclusively with lamps that reached Rhodes from other markets. One class of possibly local lamps, of mediocre to poor quality, with characteristic appliqué strap handle that primarily imitates the imported Attic lamps, constitutes approximately 8–10% of the inventoried material³⁴ (fig. 7). As has been suggested, from the late fourth until about the mid-sixth century AD the production of these lamps covered part of the needs of the inhabitants of Rhodes, before the Asia Minor products flooded the markets in the sixth–seventh centuries. The possibility that these lamps were imported to Rhodes is not tenable for a series of reasons: Firstly they are inferior-quality products not worth exporting³⁵. Secondly, in Rhodes the variety as well as the series of like lamps is much greater, while the quantities found elsewhere are negligible. Their shoddiness in combination with their small size and the ease of manufacture advocate the hypothesis that they are local products³⁶. Similar cases of apparently local production, which, conditionally and on a small scale seems to have been available in the markets of the neighbouring islands, Asia Minor, Constantinople, are a subject for discussion.

The aforementioned possibly Rhodian lamps with the appliqué strap handle also include some that have been conventionally named "Sarachane type"³⁷. For these latter, there are reservations at present and secure conclusions certainly cannot be drawn before the results of clay analyses, which, it should be noted, shows homogeneity in this group (fig. 8). These lamps, less than ten, are apparently the same as lamps found in the excavation of the Sara-

³² Lindros-Wohl 1994, 136, note 32; Karivieri 1996, 37–39; Pétridis 2000, 248.

³³ See mainly Abadie-Reynal 1989, 143–159, especially 156 ff. Also Sodini 2000 especially 193 ff. includes the islands as well as the Black Sea regions in the second zone and recognizes their common characteristics: domination of LRC pottery, of Attic and later of Asia Minor lamps, etc.

³⁴ For lamps of this class, see Katsioti 2006.

³⁵ Interesting remarks on the cost of transport in relation to the quality of the products, in this particular case of the *Firmalampen*: Harris 1980, 126–145. Of course, the calculation of the coast has been re-examined, see Bailey 1987, 60–61.

³⁶ These lamps are certainly not the only ones of local provenance from the island, but they are a special, distinct class, on account of the handle and the relative uniformity of the clay. The rest of the island's production will be discussed in the publication of the corpus of Late Antique lamps of Rhodes.

³⁷ Katsioti 2006.

chane³⁸ in Constantinople. The case of mass import from the capital should, it seems, be ruled out. Either these should be considered fortuitous sporadic finds, possibly brought by travellers, or those of the Sarachane are in correspondence also fortuitous finds, products of other regions, or even that common moulds were used.

The bulk of lamps on Rhodes, about 45% of the total, comes from Asia Minor (Broneer's type XXIX, groups 3 and 4) (fig. 9), which dominated the Aegean markets in the sixth-seventh centuries AD³⁹. The globular or amygdaloid body, the projecting round nozzle and the solid tenon-shaped handle, the plastic ring on the base, usually with stamped *planta pedis*, the handle with fish-tail finial and the oblique incisions on the base, either side of the nozzle, are their characteristic features.

The Rhodians' preference for lamps of Asia Minor type is not unusual. Already from the first century AD, lamps of the ROMANESIS workshop⁴⁰, which come from the eastern Mediterranean, most probably Miletos or Knidos, represent a considerable percentage in the excavations of Rhodes, which will be determined after the publication of the material. The ease and low cost of transportation, in conjunction with the close relations between Rhodes and the rest of the islands and Asia Minor, which was always –until recently– in a way their hinterland, has been noted of old and the finds simply confirm it. The quantity of these lamps imported from Asia Minor is related to the concurrent presence on Rhodes of pottery imported from the workshops of Phocaea (Late Roman C).

The chronological termini of the Asia Minor lamps are defined by the excavation of the Early Christian double basilica at Alyki on Thasos, where they first appear in the late fifth century AD and continue throughout the entire sixth⁴¹. The Yassi Ada shipwreck (AD 625/6), in which an evolved type with a channel linking the nozzle to the disc appears, as well as the so-called "Samian" lamps with the peculiar triangular palm-shaped handle constitutes another terminus⁴². "Samian" lamps have been collected from the Eupalinian Aqueduct on Samos, as well as earlier lamps of Asia Minor type and coins of

³⁸ Hayes 1992, 82-83.

³⁹ For Asia Minor lamps, see mainly Miltner 1937; Bailey 1985, 98-100; Bailey 1988, 366-393; Poulou-Papadimitriou 1996, 584-610; Stephens-Crawford 1990, 14-101, where Asia Minor lamps from excavation levels with coins of the 4th to the 7th century AD are presented. Roumeliotis 2001, 255-275.

⁴⁰ For the workshop, see mainly Heres 1968, 185-212. Also, Williams 1981, 27-30, for a concise but integrated view on these lamps.

⁴¹ Abadie-Reynal-Sodini 1992, 68-78, 89-90.

⁴² For the Yassi Ada shipwreck, see Bass - Doornick 1982, 189-191 (K.D. Vitelli). For the so-called "Samian" lamps, see Poulou-Papademetriou 1996, 594-598.

Maurice (AD 582–602) and Constans II (AD 641–668)⁴³. Bailey defines as *terminus post quem* for Asia Minor lamps without channel on the nozzle AD 450 and as peak of their production AD 500–600, while the lamps with channel begin in AD 500 and dominate in the years AD 550–650⁴⁴. However, they evidently coexisted for a long period. In Rhodes, the finds from the Diakogeorgiou plot in the necropolis area, a large percentage of which were lamps from Asia Minor and of Asia Minor type, indicate that the dating from the later fourth until the first half of the sixth century AD is probable⁴⁵. As far as imports to Rhodes are concerned, the distinction and the percentages of imported lamps from Asia Minor workshops, mainly in the area of Ephesos, and of the Rhodian imitations of lamps of Asia Minor type⁴⁶ is for the present problematical. It is common sense that Rhodes would produce its own imitations. Perhaps, it imported moulds of popular subjects from nearby and familiar markets, such as those in the Asia Minor littoral. However, excavations in the city and its environs have so far not yielded a single mould –in any case a rare find– or any workshop installations for lamp production of this period. Nonetheless, the bulk of lamps of Asia Minor type found in Rhodes should not be treated *a priori* as imported. In many cases, however, certain external features, such as a kind of stamp on the lower body of the lamps, associate the specific lamps with workshops of Ephesos⁴⁷ and the pronounced presence of mica in the Asia Minor lamps⁴⁸, differentiates the clay fabric from that of Rhodes.

The finding in Rhodes of lamps of the so-called "Samian" type (fig. 10) could be read as due to imports from Samos, island of provenance and diffusion of the type, as has been suggested⁴⁹. However, it is possible that the presence of this particular class in relative large percentage (approx 10% of the total) in Rhodes, and in equal if not greater percentage in Kos too, poses a problem to what extent were these lamps truly Samian products particularly since, as far as we know, neither moulds nor corresponding workshop installations

⁴³ Weber 2004, 13, 39.

⁴⁴ For the issue of dating Asia Minor lamps, see mainly Bailey 1988, 372. Williams 1981, 69–71.

⁴⁵ Bairami 2006.

⁴⁶ For imitations of Asia Minor lamps in Corinth in the closing years of the 5th and the early 6th century AD, see Garnett 1975, 173–206, especially 199–200. For local imitations of Asia Minor lamps in the last quarter of the 6th and the first decades of the 7th century AD, see Topoleanu 2003, 209–217.

⁴⁷ Bailey (1988, 371) was the first to observe this feature. The clay analyses from these lamps pointed in the direction of the Ephesos workshop.

⁴⁸ Bailey 1988, 371–372.

⁴⁹ Mainly Poulou-Papadimitriou 1996, 594–595 and then Roumeliotis 2001, 259.

have been found in Samos⁵⁰. Their characteristics⁵¹, which are a development or a variation of Asia Minor types, are distinguished by the absence of pierced handles and of the *planta pedis* on the base, the absence of decoration from the narrow disc, with simultaneous emphasis on the motifs on the shoulder and the schematic fish tail on the base, traits which differentiate them from the Asia Minor lamps. The handle, in the shape of a palmette or a palm leaf, and the decoration on the shoulder with fish and animal figures have been acknowledged as evolved, mature features of the type⁵², but this remains to be demonstrated on the basis of the associated finds.

Perhaps the presence of "Samian" lamps in the Eupalinian Aqueduct and in the Early Christian cemetery at Tigani on Samos is linked with the later dating of the specific deposits and graves, in which case the specific type dominates, and not with the production of a –supposed– Samian workshop. This hypothesis is corroborated by the following: In Rhodes, in the excavations in which the specific type has been found in quantities, there are virtually no Attic lamps, that is we are already in the sixth-seventh century AD. The Diakogeorgiou plot is a case in point; the deposits are dated up to AD 550, on the basis of the imported pottery, and not one of the one hundred or so lamps is "Samian". The same conclusions possibly apply to the Early Christian cemetery at Pothia on Kalymnos, where "Samian" lamps are also rare. Another piece of evidence for dating the "Samian" lamps is their discovery in the settlement on the ancient acropolis of Aegina, after AD 588, while, conversely, there are no Asia Minor lamps⁵³. Thus we conclude that since "Samian" lamps are more or less evenly distributed in Samos, Rhodes, Kos as well as on the opposite Asia Minor coast, only extensive clay analyses will resolve the problem of their provenance. For the present, it could be maintained that from around the mid-sixth century AD onward the "Samian" lamps displaced –if they do not succeed– the Asia Minor lamps, perhaps in the same workshops

A very small percentage of the total of lamps on Rhodes are of the so-called "Aegean" type (fig. 11), as they have been named conventionally⁵⁴,

⁵⁰ Poulou-Papadimitriou 1996, 586.

⁵¹ For the characteristics of this type, see Poulou-Papadimitriou 1996, 594–595. Although some researchers use the term Samian (see note 49), others, such as Weber 2004 26 ff., place them more correctly under the general title Byzantine lamps, but follow grosso modo the outmoded typological-stylistic classifications of Miltner 1937, which Bailey 1988, 372 had already doubted.

⁵² Poulou-Papadimitriou 1996, 594–595.

⁵³ See Felten 1975, 55–78, especially 77–78.

⁵⁴ Gerousi 2003, 513–516.

since they are particularly widespread in the Aegean islands⁵⁵ in the fifth and sixth centuries AD. Similar lamps have also been found in mainland Greece, in Corinth, Athens, Argos and Cenchreae⁵⁶. They imitate Asia Minor lamps and are richly decorated with plant or geometric motifs, rosettes, dots and triangles. Although it is premature to extract conclusions before the clay analyses, the provenance of these lamps from Asia Minor workshops cannot be ruled out.

The percentages of imported lamps in Rhodes from the second-third to the seventh century AD have been examined on the basis of the inventoried material. It should be stressed that concealed in these is a percentage of locally-made lamps, which cannot be determined precisely for the time being but which, it is hoped, will be elucidated in the future.

⁵⁵ E.g. in Kos, Roumeliotis 2001 258, nos 8-9, pls 3, 8-9.

⁵⁶ Broneer 1930, 280-281, nos 1413-1417, 1420-1421, pl. 20; Perlzweig 1961, 103, no. 374, pl. 11 ("Various imported lamps", 5th-6th century AD); Bovon 1966, 86, nos 603-607, pl. 16; Bailey 1988, 417, Q3331, pl. 124; Oikonomou 1988, 492-494, no. 89, fig. 6; Williams 1981, 72-73, nos 375, 385-388, fig. 17.



Fig. 1: Λ 7046: Corinthian lamp of Onesimos



Fig. 2: ΠX 1528: Cypriot lamp of Plato



Fig. 3: Π 2636 : Attic lamp of Eutyches



Fig. 4: ΠΧ 1533: Attic lamp



Fig. 5: ΠΧ 1233: Cypriot lamp



Fig. 6: Λ 2557: North African lamp



Fig. 7: Λ 6023: Rhodian (?) lamp



Fig. 8: A 2577: Lamp of "Sarachane type"



Fig. 9: PIX 1220: Asia Minor lamp



Fig. 10: A 2500, Lamp of "Samian type"



Fig. 11: ΠΧ 1536: Lamp of "Aegean type"

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UNLIKE THE CENTRAL AND NORTHERN AEGEAN, the region known today as the Dodecanese, which included the capital of the *provincia insularum*, is very little known or cited – unfairly I believe – in recent studies of Late Antiquity (figs 1, 5)¹. The purpose of this paper is to shed light on the region in this period, by focusing on a number of little-studied or generally overlooked written sources that give an insight into its economic history and also provide a general interpretation of the archaeological material. The main argument is that Late Antiquity was a time of economic and demographic growth for the Dodecanese, as a result of the integration of the local population into a system of inter-regional shipping routes and trade during the fifth and sixth centuries AD.

The archaeology of the Late Antique Dodecanese: an overview

Due to the paucity of contemporary literary sources, the available evidence for the Dodecanese in Late Antiquity consists mostly of Early Christian churches and a limited number of mosaics and stone inscriptions. The difficulties of the archaeological evidence are compounded by a number of factors (not peculiar to the Dodecanese): the unsophisticated way in which these churches have been excavated; the serious lack of publications based on their archaeological material and of clear reference to any of their possible contexts; and the absence of field surveys covering this period. It is telling that not one Early Christian ecclesiastical building in the entire region has been published completely, while very little is known about settlements and other categories of buildings. Specialized studies on coins and ceramics from the region are very few. It is, however, striking that in terms of "raw material", the Dodecanese provides it in abundance; about eighty-five Early Christian churches are presently known on Rhodes (fig. 2); twenty-eight on Kos with some impressive examples, over thirty on Kalymnos (fig. 3), twenty-two on Karpathos (fig. 4), while even the small islands (i.e. Saria, Telendos, Chalki, Pserimos) preserve a

¹ Most of the information presented here derives from my unpublished doctoral thesis: Deligiannakis 2006; for the northern Aegean, see Koder 1998.

large number of Early Christian monuments. Typically, in terms of size, most of these churches were approximately 22–30 m. long, while smaller churches, 15–19 m. long, are usually associated with the settlements of the hinterland².

These numbers of churches are impressive compared to similar evidence from other parts of the Aegean world; for example, the eighty-five churches of Rhodes appears remarkable (fig. 2), if we bear in mind that a similar number of monuments is attested from the larger and more important islands of Crete (about 90) and Cyprus (about 80–100)³. It should also be noted that an equally large number of Early Christian basilicas is reported on the island of Lesbos (50–70)⁴. Although the degree to which the wealth of a population can be measured on the basis of the number and the quality of basilicas is debatable, these data at least suggest a relatively high degree of economic growth compared to other Aegean regions⁵. What the dense distribution of these churches also indicates is the wide spread of Christianity.

The study of the archaeological evidence from the city of Rhodes reveals lavishly decorated Christian basilicas, wealthy private buildings and various signs of thriving economic life, such as imported goods, local artisanal activity and numerous coins. It was a prosperous and densely-populated city, mutually sustained by an equally densely-populated countryside; it remained an important harbour, a crossroad for ships travelling from the flourishing cities of the Levant to western Asia Minor and the new capital of Constantinople. The economic life of Rhodes must have profited greatly from the presence of the provincial governor and the metropolitan bishop, along with their retinues, and the city also fulfilled its role as a regional centre of commerce, industrial production and social activity for its elites throughout Late Antiquity. On the other hand, Rhodes is the provincial capital with the least references in literary sources and the fewest surviving inscriptions compared to any other city of the same status in the Aegean region; the only occasions that the island is mentioned in the texts, other than the use of its harbour as a stopover, is in connection with natural disasters and raids. The resultant impression is that among the provincial capitals of the Aegean region (i.e. Corinth, Thessalonica, Gortyna, Ephesus, Sardis, and Aphrodisias), the city of Rhodes appears the least important in political and strategic terms. After all, Rhodes as a provincial capital was a very recent development. The history of the city of Kos in Late Antiquity shows many similarities with that of Rhodes. The archaeo-

² These figures are based on my doctoral research project.

³ Sweetman 2004, 320 (Crete); Rautman 2003, 147 (Cyprus).

⁴ Kaldellis 2002, 181–182.

⁵ For a detailed study of this issue, see Deligiannakis 2006, 177–183; Deligiannakis 2007.

logical evidence clearly indicates that Kos was one of the most important cities of the province, together with Samos, Chios, and Mytilene.

Turning to the study of the non-urban sites, field surveys and excavations in different regions of the Aegean and the eastern provinces have offered a largely uniform picture of unusual population density and agricultural expansion during Late Antiquity; the evidence from the southeast Aegean islands, though patchy, not only seems to confirm this picture, but also probably presents the most impressive numbers of any part of the Aegean world.

The principal source of information remains church archaeology; however, the irrevocable loss of stratigraphical and other evidence from most of the excavated monuments does not allow a good historical reading of this material. In addition to the large number of Early Christian churches, the preliminary reports from two field surveys carried out in the area of Kattavia on Rhodes (by the Danish Institute at Athens) and Kardamaina on Kos (by the University of Athens), seem to corroborate this impression. To these two important studies, for which we await the final results, can be added Papachristodoulou's gazetteer of sites in the territory of Ialysia on Rhodes and the two extensive surveys conducted by the author in the areas of Mesanagros (Rhodes) and Palatia (Saria)⁶.

The most important rural settlements are typically located near the coasts. Between the growing number of villages and the cities, another distinct level in the regional hierarchy of settlements now appears: this is what Dagron, and Morisson/Sodini call "a secondary centre", "satellite town", "secondary city or town"⁷. The archaeology of Kos presents at least two examples of carefully-excavated large coastal settlements and better stratigraphy and chronology regarding Early Christian buildings than on the other Dodecanese islands⁸. Kalymnos/Telendos, Karpathos and Leros, together with smaller islands, all have a large number of Early Christian basilicas. Another prominent feature of this period is the re-occupation of offshore islets, which fulfilled several different functions. The most telling examples are Telendos and the site of Palatia on the small island of Saria (fig. 3).

The evidence from these coastal settlements indicates a relatively socially homogeneous population, which lived primarily on the land as smallholders or

⁶ Rhodes: Kattavia: *AR* 1994-5, 60; Ialysia: Papachristodoulou 1989, 147-151; Mesanagros: Deligiannakis 2006, 198-208; see also Volanakis 1995, 1262-1272. Kos: Kardamaina: Kopanias forthcoming. Karpathos: Deligiannakis 2006, 224-234; see also Karabatsos 2006, 3.

⁷ Morisson & Sodini 2002, 179-181. For the division between urban and non-urban areas in our region, I use the list of Hierocles' *Synekdemos*.

⁸ Archaeological reports: Kokkorou-Aletras, Kalopissi-Verti, Panayiotidi 1995-1996, 313-343; Militsi 2000, 277-290.

tenant farmers, but also engaged in maritime activities as traders and fishermen, as well as in various kinds of craftsmanship; there is clear evidence for commercial contacts with regions far beyond their shores. At the local level, these settlements usually functioned as centres of local markets, artisanal production and trade, and hardly differed from small cities; agricultural surplus would have fuelled the growing economy of these market towns and supported an island-wide project of church buildings. A network of wealthy agrarian villages was connected with these large settlements, which possibly functioned as upper-tier collection points for local agricultural products and major distribution centres for bigger markets; these large, prosperous coastal villages probably offered a partial substitute for urban centres in the regional economy, even though they did not carry the traditional urban apparatus and culture⁹.

Systems of exchange and the role of the Dodecanese islands in the economy of the eastern Mediterranean

My archaeological survey clearly showed that the fifth and the sixth centuries AD were a period of rural expansion and economic growth for this region. Furthermore, the discovery of imported Red Slip (RS) wares and their local imitations, as well as imported marble furnishings, in the countryside, attests the extent to which even village societies were involved in intense commercial activity in both production and exchange. It seems therefore right to say that intensive exploitation of the land together with maritime activities is the obvious explanation behind the full landscape and the numerous Early Christian monuments. A fair number of literary sources mention Dodecanesian *naukle-roi* and refer to the harbours of Rhodes and Kos as being significant crossroads for ships travelling along the major sea routes linking the new capital with the eastern provinces and the two parts of the empire with each other¹⁰. One can therefore assume that the founding of Constantinople and the diversion of Egyptian grain to the new capital, the absence of serious warfare and the

⁹ The numismatic evidence shows that the city was the centre of economic life of the island during the fourth century. However, the distribution of coins in later centuries seems to suggest the gradual economic growth of the rural settlements: Brouskari and Didioumi 2006, 297–324.

¹⁰ E.g. *ex-voto* inscription from a church at Mastichari on Kos that mentions a *nauklērixa*: Orlandos 1966, 97; similar inscription from a church at Plymmiri on Rhodes, in which someone prays for himself, his children and the safety of his ship: Orlandos 1948, 43–44; guild of sail-makers in the city of Rhodes in the 610s: Dagron and Déroche 1991, 215 (*Doctrina Jacobi*); for more examples, see below.

growing emphasis on maritime rather than overland communication during Late Antiquity had a serious impact on the economic history of the provinces of Aegean Greece and Asia Minor, even though contemporary sources and the archaeological record provide little evidence for the precise nature of this change locally. I shall present below a selection of important documents that offers the best possible explanation for the evidence of rural expansion and economic growth for the region, and also permits us to see the role of these island communities in a wider context.

The most important information about the economy of these islands in Late Antiquity is provided by two legal sources and four other widely ignored texts which highlight this issue further. Before looking at these sources, I should begin with a few general comments on scholarly views about the nature of Late Antique economy.

In many recent studies of the economic history of the Later Empire, the State, in the ways it distributed its revenues, has been thought to be the main protagonist in the exchange system. The political investment in the provision of the new capital with large-scale state-commandeered shipments of Egyptian grain and olive oil (*annona civica*) from the East and the Aegean region has been widely used to explain the economic expansion of the eastern Mediterranean and the Aegean region in particular. Provisioning the army and taxation were other major mechanisms of exchange, in which the State was heavily involved. The Church too was a protagonist in the economic life of the period; the need to fulfil its increasing social and administrative role would have compelled it to become involved also in commercial activities. On the other hand, there is ample evidence for the parallel growth of local and (inter-) regional trade (e.g. Prokonnesian marble, pottery, cloth, and staple goods). Many scholars have recently tried to revise the argument that the State was the primary force underlying overseas distribution¹¹. As I shall try to show below, it seems plausible to suggest for the Aegean region a situation in which the fiscal movement of goods set commerce in motion, whilst concurrently both mechanisms (commercial and non-commercial) were closely interlinked, probably to mutual advantage¹².

The direct involvement of the Dodecanese islands in state-led *annona* shipments is revealed by an edict of the Theodosian Code, sent to the praetorian prefect Anthemius on 19 January 409 (13.5.32). The text of the edict read as follows:

Since the guild of shipmasters throughout the provinces of the Orient was tottering because of the lack of ships and under the pretence of seeking out their

¹¹ Kingsley and Decker 2001, 1–27; see also note 11.

¹² Ward-Perkins 2000, 346–391; Wickham 2005, 72ff.

fleet, such shipmasters were entering remote recesses of the islands and since, after the suitable season for navigation had passed, the indignation of the courts was awaited without any effect on the transportation of supplies, Your Eminence rightly summoned the augustal prefect and the governor of the islands and induced the primates of the Alexandrian and Karpathanian fleets and certain other shipmasters to the point of a formal declaration to receive on their responsibility this cargo of grain supplies, which has been customarily transferred to the most sacred City by the Oriental shipmasters from the stores of the City of Alexandria, and to transport it to the aforesaid storehouses of the most Augustal City. Compensation for their small remuneration was furnished by immunity from payment of tribute and by that which is called the Friendship Fund, and also from the other sources which the examination of Your Wisdom has investigated. [...] ¹³.

This is an important source for us because it places the Aegean islands at the centre of the eastern *annona* operation of Egyptian grain, and opens up a number of interesting issues. First, it indicates the major role that the praetorian prefect of the Orient together with the provincial governor of the islands played in the annual transport of Egyptian grain to the Augustal City, probably Constantinople. Secondly, it provides a rare reference to a Karpathanian fleet, which along with that of Alexandria was, according to the text, responsible for shipping the grain in the early fifth century; and thirdly, it suggests a regular maritime link between the southeast Aegean, Alexandria and Constantinople.

We know very little about the exact route that *annona* shipments of Egyptian grain to Constantinople followed; our sources mention only Chios and Tenedos as stopover stations of the *annona* fleets¹⁴. Karpathos was located on the major sea-lane connecting Constantinople to the East, but also at a point where the N-S and E-W sea routes converged. The testimony of the edict leads us to assume that the direct Dodecanese –Alexandria route continued to be a deep-sea passage that was frequently used by ships on a year-round basis, as several other ancient sources also attest¹⁵. For the return voyage, Bakirtzis has suggested, though without concrete evidence, that the annual transfer of Egyptian grain may have followed the route via the west coast of Cyprus at Drepanon and the south coast of Rhodes¹⁶. The evidence from

¹³ Pharr 1969, 395–396.

¹⁴ Proc. *De aed.* 5.1.7–16 (Tenedos); *PO* 19.2 (1926), 162 [508] (Alexandrian fleet at Chios) and *Mir.Dem.* I.102 (I8) (Chios).

¹⁵ For navigation routes, see now Arnaud 2005, 207–230.

¹⁶ Bakirtzis 1997, 327–332. It concerns a coastal area of SE Rhodes known as Armeni, near the village of Lachania, with extensive remains of large buildings (for storage?), houses, a large cistern and pottery scatter: *ADelt* 44 (1989), 520. Note that this open-sea crossing against the

the Theodosian Code seems to support this hypothesis, if we also suggest that the *raison d'être* of the other popular route, via the ports of Syria, Cilicia and Lycia, was the transshipment of state-procured products of these provinces, conducted by Cilician, Alexandrian, Phoenician, Palestinian and Cypriot *naukleroi*¹⁷. If so, the transport of Egyptian grain to Constantinople would be carried out by Alexandrian and Aegean ship-owners, and apparently involved little interaction with the ports and the fleets of other provinces. This system was surely much more flexible and complex than this model suggests. Yet, generally speaking, the trunk routes suggested here make good sense in terms of both economic and environmental logistics.

In addition to the above reference to the Karpathian fleet, two other sources attest the involvement of the people of Karpathos with interregional systems of exchange. In two of his letters, Synesius of Cyrene refers to Karpathian vessels.

Ἐταίρω. Ἐμισθωσάμην σοι ναῦν ἀνθρώπων εὐγενῶν καὶ πλεόντων τὴν θάλατταν μετὰ πλείονος τέχνης ἢ τύχης. ὥς αἱ γε Καρπαθίων ὀλκάδες φῆμιν ἔχουσι διανοίᾳ κεχρησθαι, καθάπερ αἱ Φαιάκων τῶν πάλαι, πρὶν ἐπὶ τὴν νῆσον γενέσθαι τὸ δαιμόνιον μήνιμα.

To a friend. I have hired a ship for you furnished with a crew of sailors of good stock, sailors who trust more to skill than chance in navigation. These vessels of the *Carpathians* have the reputation of being endowed with intelligence, as were the famed ships of the Phaeacians before the wrath of the Gods beat upon their island.

Τῷ αὐτῷ. Ἄραντες ἐκ Φυκοῦντος ἀρχομένης ἑώας, δειλῆς ὀψίας τῷ κατ' Ἐρυθρὰν κόλῳ προσέσχομεν ἐνδιατρίψαντες δὲ ὅσον ὕδωρ πιεῖν καὶ ὑδρεύσασθαι (πηγαὶ δὲ ἐπ' αὐτὴν ἐκδιδόασιν τὴν ἡὺν καθαροῦ καὶ ἡδίστου νάματος), ἐπισπευδόντων τῶν Καρπαθίων αὐθις ἀνήχθημεν πνεύματι δὲ χρησάμενοι μετρίῳ μὲν ἀλλ' ἐκ πρύμνης αἰεὶ, καὶ μέγα οὐδὲν ἐφ' ἐκάστης ἡμέρας ἀνύειν ἐλπίσαντες, ἐλάθομεν ἐξηνυκότες ὅσον ἔδει. καὶ πεμπταῖοι τὸν φρυκτὸν ἰδόντες, ὃν αἴρουσιν ἀπὸ πύργου τοῖς καταγομένοις σύνθημα, θάττον ἢ λόγος ἀποβιβασθέντες ἡμεῖς ἐν τῇ νήσῳ τῇ Φάρῳ.

To his Brother. Starting from Phycus at early dawn, late in the evening we stood in to the gulf of Erythra. These were stopped only a sufficient time to drink water and to take in a supply. Springs of pure, sweet water gush forth upon the very shore. As our *Carpathians* were in a hurry, we took to sea again. The wind was light, but it blew continually on our stern, so that where we expected to make nothing of a run each day, we made all we needed before we were aware of it. On the fifth day we perceived the beacon fire lit upon a tower to warn ships running too close. We

meltemi could be very uncertain; nevertheless, the sea currents during summer seem to follow exactly the route proposed here: Pryor 1988, 6 (Ibn Jubayr-12th c.), 7, 95-96.

¹⁷ Cf. the information of the tariff inscription of Seleucia and the decree of Abydos: Dagron 1985. According to Foss, the grain of the whole of Lycia was transported to the large granaries of Andriake for shipping: Foss 1994, 25.

accordingly disembarked more quickly than it makes to relate, on the island of Pharos.

It is noteworthy that Synesius refers here to merchant vessels (ὀλκάδες) that, as he implies, frequented the sea route between the Pentapolis and Alexandria c. 405¹⁸. The other source is Isidore of Seville (550–636), who says that Karpathian ships were large and spacious¹⁹.

Based on the above evidence, we can conclude that a major part of the economy of Karpathos in Late Antiquity was associated with state-commandeered shipments of Egyptian grain to Constantinople, as well as maritime trade. It appears that Karpathian merchant vessels operated within the triangle Karpathos (via Crete) – Pentapolis – Alexandria, while the island may have also been an alternative port of call for the *annona* fleet²⁰. It has at least four large natural harbours that could easily have offered safe anchorage for ships of any size. Timber from the island (pine and cypress) was exploited both in antiquity and in later periods²¹. The archaeology of Karpathos provides ample evidence for wealthy coastal settlements and sumptuous Christian buildings, as well as indications of possibly trade in dyed-garments and olive oil (a suitable commodity for export to Egypt)²². It is also interesting that the time of these references to Karpathos coincides with the peak of the number of coin losses from the island²³.

The collection of literary and legal sources regarding the creation of the *quaestura exercitus* in 536 offers important evidence for the major argument of this paper. The new administrative unit created by Justinian included the Province of the Islands, along with Cyprus, Caria, Moesia II and Scythia. The creation of the *quaestura exercitus* represents a special instance in which our region as a whole is singled out in connection with a specific imperial policy, namely the provision of the troops on the lower Danube with food supplies.

¹⁸ Syn. *Ep.* 41, 51. Fitzgerald 1926, 111, 124 (translation).

¹⁹ Isid. *Etyim.* XIV.6.25. Roques 1997, 397–400 (Synesius and Cyrenaica); Rougé 1963, 253–268.

²⁰ Alexandria–Pentapolis maritime route was very popular. On the other hand, the south lane of W–E travel (W. Africa – Pentapolis – Alexandria) was in all periods much less popular than the north one. A sea current running from the NE coast of Cyprus to the south of Crete and thence down to the Libyan coast and west of Cyrene may have assisted the Karpathian vessels along this route. Arnaud 2005, 213–214, 218. According to Strabo (17.3.21), the voyage Cyrene–Crete took two days; cf. Syn. *Ep.* 129 (adversary winds from Crete).

²¹ Rhodes and Karpathos were the two main timber-producing islands in the Dodecanese: Melas 1985, 18.

²² An elaborate church inscription in Arcassa mentions a certain Ioannes the oil-merchant as one of the church benefactors: Jacopich 1925, 29. Purple-dye? workshop at Leukos: Karabatsos 2006, 279–280.

²³ Karabatsos 2006, 282–296.

The rationale behind the inclusion of the Islands, Caria and Cyprus in the *quaestura exercitus* was linked to the prosperity of these areas and their strategic location at the hub of the Empire's communication network in the early sixth century. This is clearly expressed by Ioannes Lydus²⁴. The third main factor, which Ioannes Lydus does not mention but which we have already highlighted, is the maintenance of large fleets and activity related to the sea. Recent studies of the distribution patterns of amphora types in the lower Danube area seem to agree with the legal sources²⁵. This context also provides a possible interpretation of a number of pottery kilns of Late Roman 1 and 2 amphorae, discovered in several places on Rhodes and Kos.

Looking at the three Mediterranean provinces of the *quaestura* as a whole, we encounter a uniform picture of rural prosperity and economic expansion during the fifth to the seventh century. It is also important that North Syria, Cyprus, Rhodes and the Cilician coast are all singled out as the major producers of LR1 amphorae, while LR2 amphorae were generally an Aegean product²⁶. What brings the whole region including the south Aegean, SW Asia Minor and Cyprus together is evidently the integration into a vast exchange nexus linking Constantinople to the Levant along the major *annona* sea routes. The Cypriot landscape seems to be the best known to us, thanks to a series of excavations and careful fieldwork. Some Early Christian churches on Cyprus have been assigned to the fifth century, while many more seem to have been built in the later fifth and sixth century.²⁷ A possible peak of rural expansion is placed in the (mid-) sixth century, and the same can also be suggested for Rhodes and Kos, as well as a number of similar village agglomerations across the highly-similar Mediterranean sub-region of Lycia or the limestone massif of Syria²⁸. The tiny sites of Palatia and Telendos in the Do-

²⁴ *De Mag.* II.29.15–18 (Bandy, 126): "He [Justinian] instituted, therefore, as I have just said, a prefect as overseer of the Scythian forces, having set aside for him three provinces, which were almost the most prosperous of all: Cerastis (it is called now Cyprus, having had its name changed in consequence of Cypris, who, according to legend, had been honoured there), all of Caria, and the *Ionian islands*". Also note that Procopius (*Wars* III, xi 13–6, ed. and trans. by Page, 103), talking about Justinian's expedition against Carthage, says that among the 30,000 sailors required to carry the imperial army to Carthage, "Egyptians and *Ionians* for the most part, and Cilicians, and one commander was appointed over all the ships, Calonymus of Alexandria." Given the similar use of the word by Ioannes Lydus referring to the Aegean islands, it is possible that Procopius, in specifying *Ionians* here, referred to the (eastern) Aegean islands and their *peraea*.

²⁵ Karagiorgou 2001; Opait 2004, 293–308 (ancient Dobrudja and imported LR1 and 2 amphorae).

²⁶ Williams 2005, 157–168; Sodini 2000.

²⁷ Rautman 2003, 247–258.

²⁸ Tietz 2006, 257–281 (Lycia).

decanese, the islet sites of the Ölüdeniz area near Fethiye, and the maritime town of Aperlae in Lycia, with the impressive number and size of their Christian buildings, all tell the same remarkable story²⁹.

The parallel growth of interregional commercial exchange and shipping was among the economic implications of the eastern branch of the *annona* system that fuelled the region's prosperity. It is useful to note that state shippers enjoyed not only numerous fiscal and legal privileges in return for their service, but also customs-free status in their private business transactions, something that was not available to other shippers. Several edicts indicate that *navicularii* often concentrated on exploiting their privileged status in private commercial operations at the expense of their state obligations, while state compensation in the case of shipwreck opened the door to highly-profitable frauds; trade and smuggling of the *annona* supplies would definitely offer big profits to ship-owners but also to local imperial officials and land-owners³⁰. This is implied also by the edict of 409, in which the imperial indignation was caused not by the shortage of ships but by the reluctance of the *navicularii* to contribute ships to transport the Egyptian corn; that is why the State had to offer the *navicularii* a new remuneration (the Friendship Fund), as an inducement. Other possible implications of the Justinianic reform locally may have been a shift to the cultivation of specific crops (intensive investment in grain or cash crops, in response to increased commercial opportunities or specific fiscal demands), the creation of *emphyteutical* villages by the State, even demographic growth and increased social mobility. But, having all these in mind, two negative effects could also be envisaged: a higher degree of extractive pressure on the peasantry and the potential vulnerability of monoculture for the long-term subsistence of the population of the small islands³¹.

With regard to maritime trade, I would like to present here two widely-ignored texts that suggest interregional trade between Rhodes and the eastern Mediterranean. The first document discussed is a letter sent by the theologian

²⁹ Hohlfelder and Vann 2000, 126–135; Asano 1999, 721–723.

³⁰ E.g. *ThC.* 13.5.21, 26, 32, 33; 13.6.7; 13.6.9; also McCormack 2001, 87–92. Note that in the Ottoman period the State had again the monopoly of grain transfer to the capital. As a direct consequence of this corn monopoly, illegal trafficking was widespread; the illegal profits principally went to the local officials, land-owners and skippers: Angelomatis-Tsougarakis 1990, 190–211.

³¹ Cf. Horden and Purcell 2000, 201–202, 229 (colonial-type exploitation); in the period AD 1700–1821 the intensification of agricultural production and monoculture in the Aegean region led to harsher exploitation and suppression of the peasantry by the large landowners: Leontaritis 1996, 29–30.

and orator Procopios of Gaza to his brother Zacharias, provincial governor of Rhodes³².

Ἀλέξανδρός τις παρ' ἡμῖν ἐπὶ ξύλοις τὴν ἐμπορίαν ποιεῖται, κἀντεῦθεν ἔχει τὸν βίον. οἷα δὲ εἰκὸς τοὺς τοιούτους, κοινωνόν τινα ποιεῖται τοῦ πράγματος —Εὐθύμιος αὐτῷ τοῦνομα— ὅπως ὁ μὲν πέμποι τὰ δοκοῦντα, ὁ δὲ μένων δέχοιτο, καὶ τὴν ἐμπορίαν οὕτω ποιοῦνται. οὗτος τοίνυν τὴν τῶν Ῥοδίων οἰκεῖ παρ' ὑμῖν, ὦ Ζεῦ, καὶ ὅμως φησὶ μὴ δίκαια πάσχειν. τὸν δὲ ἀδικοῦντα Ῥωμαίων γλώσση κογκούσσωρα εἴποις· νομοθετεῖ γὰρ μὴ εἰωθότα καὶ καινότερου κέρδους ἀφορμὴν μηχανᾶται, ὥσπερ οὐχ ὑμῶν ἀρχόντων τῆς Ῥόδου.

A certain Alexandros here [in Gaza] trades in timber, and from that he makes a living. As is common to these people, he has a commercial agent, named Euthymios —so that one sends what is needed and the other receives it; this is how they trade. He [Euthymios] then lives at Rhodes near you [Zacharias], oh Zeus, and he claims that he suffers unfair treatment. You would call the wrongdoer *kogkoussora* {concutio-tere-ssi-ssum} in Latin; because he makes laws that are not common practice and seeks ways of making additional profit/imposing extra tariffs, in a way which is not typical of you, the governors of Rhodes (my translation).

The text reveals timber trade between Rhodes and Gaza *circa* AD 500. It is, however, interesting that the text seems to imply that Rhodes imported timber, rather than the other way round, as one may have expected. It is unlikely that the area of Gaza was able to export timber in this period; imported timber probably came from Lebanon or Cyprus. Yet, why Rhodes needed to go as far as Cyprus or Lebanon, rather than Lycia, which had abundant resources of cedar and cypress, to buy timber is difficult to answer. Whether relating to a demand for top-grade timber from that region (i.e. cedar of Lebanon) or a need to supplement supplies of native cypress and pine by imports due to large-scale ship- and church-building activity in this period, this information can be viewed as an indicator of strong commercial links between the two regions and also of a high degree of specialization in the trade economy. In fact, there is ample evidence for a brisk traffic of ships that connected the prosperous Palestinian region to the Aegean and the West via the Lycian coast and the Dodecanese region³³.

The next text discussed here is a letter sent by Victor, chief administrator of the Apion estates, to another official called Theodore; it concerns an urgent

³² This significant text is analysed thoroughly in Deligiannakis forthcoming.

³³ Kingsley 2001, 43–68. References to Rhodes as a stopover destination on voyages between Gaza/Caesarea and Constantinople: Marc. Diac., *Vita Porph.* 34.12, 19, 55.1, 56.1 (ed. Grégoire/Kugener); In his Life, St. Nicholas travelled from Ashkalon to Constantinople on a Rhodian ship: 36–37, 63, 65 (ed. Ševčenco/ Patterson-Ševčenco); Gaza-type amphorae have been reported at several sites on Rhodes and Kos; see also nn. 14 and 41.

request for the dispatch of some Rhodian wine from the family's store-chamber³⁴.

† ἔπειδὴ ἔπεμψα εἰς ἀπόκρισιν ἐκέισε Γεώργιον τὸν καθοσιωμένον, καταξίωση ἢ σὴ γνησία λαμπρότης εἰς τὸ κελλάριν εἰσελθεῖν καὶ ἐκ τοῦ Μαγαρικοῦ τοῦ Ῥοδίου γεμίσαι ἓν κεράμιν καὶ σφραγίσαι ἀσφαλῶς μετὰ γυψίου καὶ πέμψαι μοι διὰ τοῦ αὐτοῦ καθοσιωμένου νεωτέρο[υ.]

As I have sent to you the devoted George on my service (?), will your true nobility go into the store-chamber and from the Megarian vat of Rhodian wine fill one *ceramion* and seal it securely with gypsum and send it to me by the devoted young man.

This papyrus furnishes the only solid evidence for the import of Rhodian wine to the Egyptian market in Late Antiquity³⁵. The suggested date of this text is in the 610s, the advent of the Persian conquest of Egypt. It is also noteworthy that in the same period the percentage of coins of Heraclius from the Alexandrian mint at Rhodes appears to be relatively high (4.2%), compared to other Aegean regions³⁶. Moreover, whereas Aegean LR2 exports to Egypt had seriously diminished by that time, LR1 continued to reach Alexandria³⁷. Thus, one can argue for continuing commercial links between the two regions until the early seventh century³⁸. One way, among others, for Dodecanesian products to reach the Egyptian market was on the empty ships of the islands' shipmasters travelling to Egypt to load grain for the State; part of the cargo may have been sold on the way and replaced by other products before the ship reached its final destination.

Similarly, the huge market and high level of consumption in the capital may have also created a need for Dodecanesian products (wine, oil, garments, foodstuffs), either carried piggyback on *annona* ships, or transported there by independent merchants. A passing reference to a Rhodian *naukleros* in the

³⁴ *POxy* 16, 1851.

³⁵ Rhodian ships in the Hellenistic/Early Roman period travelled to Egypt and the Black Sea, loaded with wine from the local production of Rhodes and its neighbours, to return laden with grain which it distributed to the Greek islands, Athens and the coastal cities of Asia Minor; ancient sources inform that the island also exported dried figs, perfumes and honey: Casson 1954, 168–187; *PSI* V 535.9, *P.Cair.Zen.* I 59012.28; *P.Cair.Zen.* IV, 59680.15; the Rhodian Public Bank, slave trade and commercial relations with Egypt in the late third century: *POxy* 3593–4.

³⁶ Kasdagli 2000.

³⁷ Majcherek 2004, 229–237; it should remain a possibility, though still unproven, that LR1 amphorae imported in Egypt could have travelled from Rhodes/the Dodecanese region. Local production of LR1 type amphorae has been reported so far on Rhodes (Apolakkia) and Kos (Kardamaina, Kephalos).

³⁸ Alternatively, this reference may denote that the Apion family owned an estate on Rhodes; trans-regional estates owned by the Apion family and other LR aristocrats: Sarris 2004, 290–292, 305–306.

Miracles of St Artemios (compiled before 668) offers perhaps a classic example of a Rhodian aristocrat who used his agricultural surplus to finance his shipping ventures; George of Rhodes was owner of an estate and also master of his own ship; he had to spend a long time at the church of St John the Baptist in Constantinople as an incubate, while his sons frequently visited him from Rhodes³⁹. Besides, it is now almost certain that after an earthquake in 557, the arches of Justinian's Hagia Sophia in Constantinople were repaired with a special type of bricks brought from Rhodes⁴⁰.

Additional evidence for commercial and non-commercial links of the Dodecanese with western Asia Minor, north Africa and the Levant can be found in: 1) the material from numerous Early Byzantine shipwrecks discovered between the rugged coasts of the mainland and the islands⁴¹; 2) the widespread presence of imported RS wares, amphorae, lamps, non-RS fine and semi-fine wares recorded in archaeological reports and discussed in a few specialized studies⁴²; 3) the wide distribution of high-quality imported church furnishings of marble from the quarries of Prokonessos, Thasos, Paros and possibly elsewhere and⁴³; 3) the study of the numerous mosaic pavements⁴⁴.

³⁹ In the same collection there is another example of a native of Rhodes, a certain Theodore, who also travelled to Constantinople regularly seeking a cure: Crisafulli and Nesbitt 1997, no. 35, 185–189 no. 44, 221.

⁴⁰ This is reported in an eighth-to-tenth century text (*Diegesis* 14) and has now been confirmed by a physicochemical analysis of brick samples from Hagia Sophia, three other sixth-century churches in Istanbul and the cathedral church of Rhodes: Moropoulou, Cakmak and Polikreti 2002, 366–372.

⁴¹ Parker 1992, no. 111, 76; nos 351–352, 159; no. 519, 217; no. 491, 208; no. 509, 214; nos 1239–1240, 454–455; Bass and Doornick 1982 (the given interpretation of the cargo and the ship's itinerary is debatable).

⁴² The analysis by Empereur – Picon of LR1 amphora from Rhodes showed that, despite the local LR1 production in Apolakkia of Rhodes and İsmeler (Marmaris bay), the island of Rhodes was importing LR1 amphorae from the Cilician coasts, Northern Syria, and to a much lesser extent Cyprus: Empereur and Picon 1989, 242–243. In addition, based on a few – unsystematic – reports on RS wares, we can provisionally argue that Phocaeen types were the most numerous, followed by Cypriot and African wares; the distribution of ARS seems to follow the general trends of the Aegean region; Cypriot ware was relatively well attested at our sites, yet not to the extent attested at various sites on the Lycian coast as well as along the SE coast of Asia Minor: Deligiannakis 2006, 272–275.

⁴³ Deligiannakis 2006, 181–184, 216, 280, 447 (imported church furnishings at numerous sites on Rhodes, Kos, Karpathos, Kalymnos, and Leros); Sodini 1989, 163–186; Militsi 1996–1997, 349; see also note 46.

⁴⁴ Assimakopoulou–Atzaka 1991 (stylistic similarities between mosaics on the Dodecanese and Crete, Karpathos and Crete/Syria/Palestine/Cyprus, Kos and Samos/western Asia Minor, Kalymnos and Syria/SE Asia Minor).

Conclusions

The main argument of this paper has been that Late Antiquity in the Dodecanese was marked by demographic growth and dispersed settlement accompanied by the intensive cultivation of available land. Region-specific political initiatives along with empire-wide policies (e.g. *annona*, taxes in cash) gave these islands a significant role in the maritime exchange system, which was the driving force of their economic expansion. Their major importance for the imperial authority was the provision of vessels and crews for the imperial-commandeered transports of goods, of local agricultural products (i.e. surplus) destined for the Danube army and the population of Constantinople, and also of people (i.e. officials and soldiers). The political and economic imperatives in the eastern part of the Roman Empire in this period seem to favour the economic amalgamation of a vast region, including Egypt, the Levant, the eastern Aegean and Constantinople, within a complex system of exchange and transfer of goods, whether for commercial or non-commercial purposes; various aspects of this activity regarding the Dodecanese region have been illustrated here (fig. 5). The islands' ships carried wine, oil, purple-dyed garments, other foodstuffs and ceramic products, either piggyback in fiscal shipments or as primary cargo for trade, while numerous natural harbours of these islands were functioning as regular stopover and repair stations⁴⁵. Finally, the ferrying of pilgrims to the pilgrimage centres of the eastern Mediterranean and piracy should also be mentioned as parts of the maritime culture of the region⁴⁶.

We have argued that the integration of the local population into a system of exchange of goods went far beyond the scale of the traditional interconnection of these island societies. Yet, we should not underestimate the paramount importance of parallel local and regional networks, given that our sources make it easier to document overseas, rather than local, exchange networks⁴⁷. Medium-distance exchange for the various island communities has always been the norm. The study of different types of ceramic products (RS

⁴⁵ Koan purple garments (made of silk): Ioannes Lydos, *De Mag.*, 13; Magie 1975, vol. II, 817–818; See also Bosnakis 2000–3, 272–273. Kos was often praised by ancient authors for the fertility of its land, its wines, silk garments and perfumes: Sherwin-White 1978, 226, 236–245. It is possible that at least some of these features remained unchanged during Late Antiquity. The coastal settlement on the tiny island of Alimnia, west of Rhodes, functioned as a repair station for merchant ships in Late Antiquity: Blackman and Simosi 2002, 7, 139–149.

⁴⁶ Pryor 1988, 89–101.

⁴⁷ See for example two local sources of coarse-grained, white to greyish 'marble' on Kos and Rhodes, widely used in the decoration of churches around our region, usually in combination with better-quality imported marble; Papavasiliou 2004, 129–136; Stampolidis 1987, 74; Chatzikonstantinou and Poupaki 2002, 59. The city of Rhodes as possible regional centre of glass-making: Triantafyllidis 2004.

wares and lamps) has indicated a complex commercial network interconnecting nearby islands, and the most familiar west coast of Asia Minor⁴⁸. One can also guess that the bulk of the agricultural production of Rhodes and Kos was consumed locally, while a good proportion would also be used to supply the smaller and less fertile nearby islands as well as parts of the opposite coasts.

Taking a broader chronological perspective, a comparative study of these island societies in different periods seems to illustrate two important characteristics of their economies, which determine changes: the heavy dependence of these island economies on external (i.e. networks of exchange) rather than internal (i.e. natural resources) factors, and their adaptability. Otherwise unprivileged places in terms of natural resources, the islands managed to achieve in different periods significant demographic and economic growth both by using their large fleets to transport goods between the Middle East, Asia Minor and the West; but also by offering services to passing ships as commercial and repair stations and entrepôts, involved with shipbuilding, supplying potable water and also the slave trade⁴⁹. In some cases, these activities were also combined with a policy of specialization of local produce for trade to big markets. Without overlooking the particular characteristics of each period, it seems that the sudden rise and fall of Aegean island communities through history has always been the result of their structural integration into an expanding network of long-distance exchange and its final disruption. In Late Antiquity, the dynamic (or just working) equilibrium between the environment, demography and the collective or individual pursuits of the exploitative holders of power, which was probably achieved during the fifth/sixth centuries, reached a critical point after the mid-sixth century.

⁴⁸ Roumeliotis 2001, 255–276; Koutellas 2004, 373–388; Koutellas 2005, 447–470.

⁴⁹ Some examples: Aegina in the classical period: Figueira 1981; Patmos, Siphnos, Schinousa and Antiparos in the 17th century: Zachariadou 2004, 199–212; Hydra, Psara, Spetses, and Kasos in 1750–1810; Symi, Kalymnos, Kastellorizo, Chalki and Karpathos in 1850–1910: Kaspersen 1966; Leontaritis 1996, 29–65; Michaelides-Nouaros 1936, 84–117; Pappas 1994, esp. 62–112.

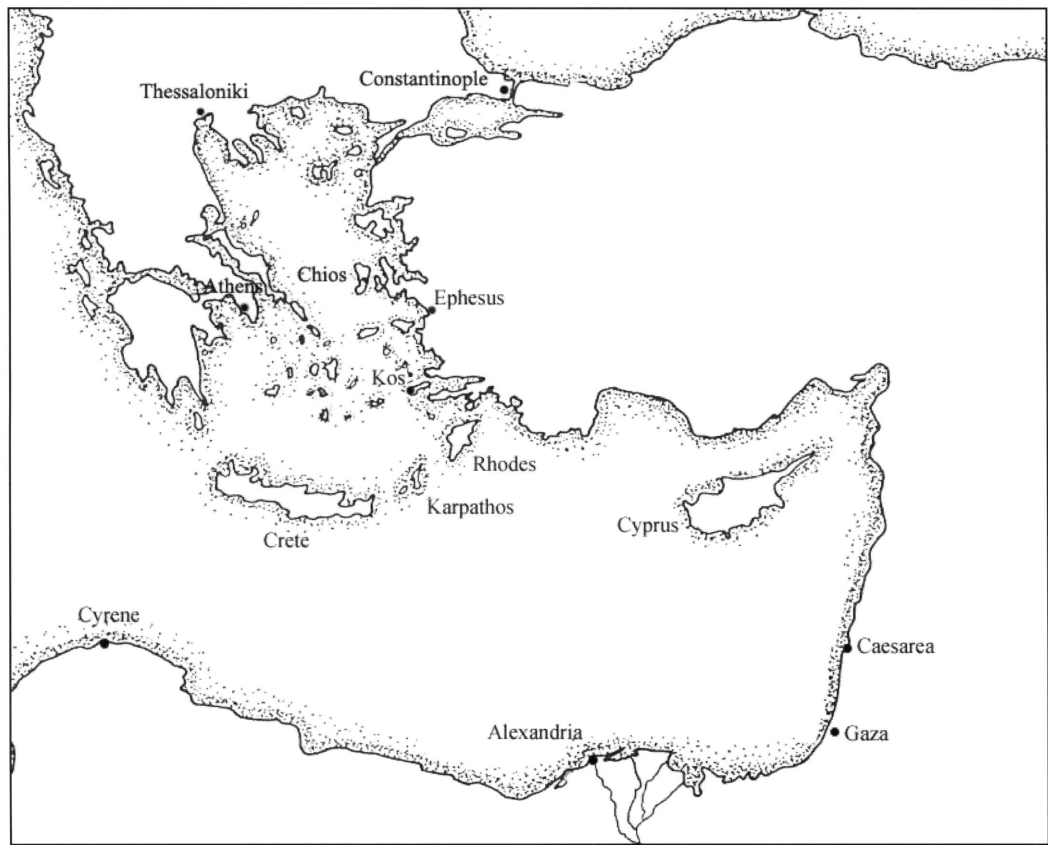


Fig. 1. The Aegean Sea and the Eastern Mediterranean

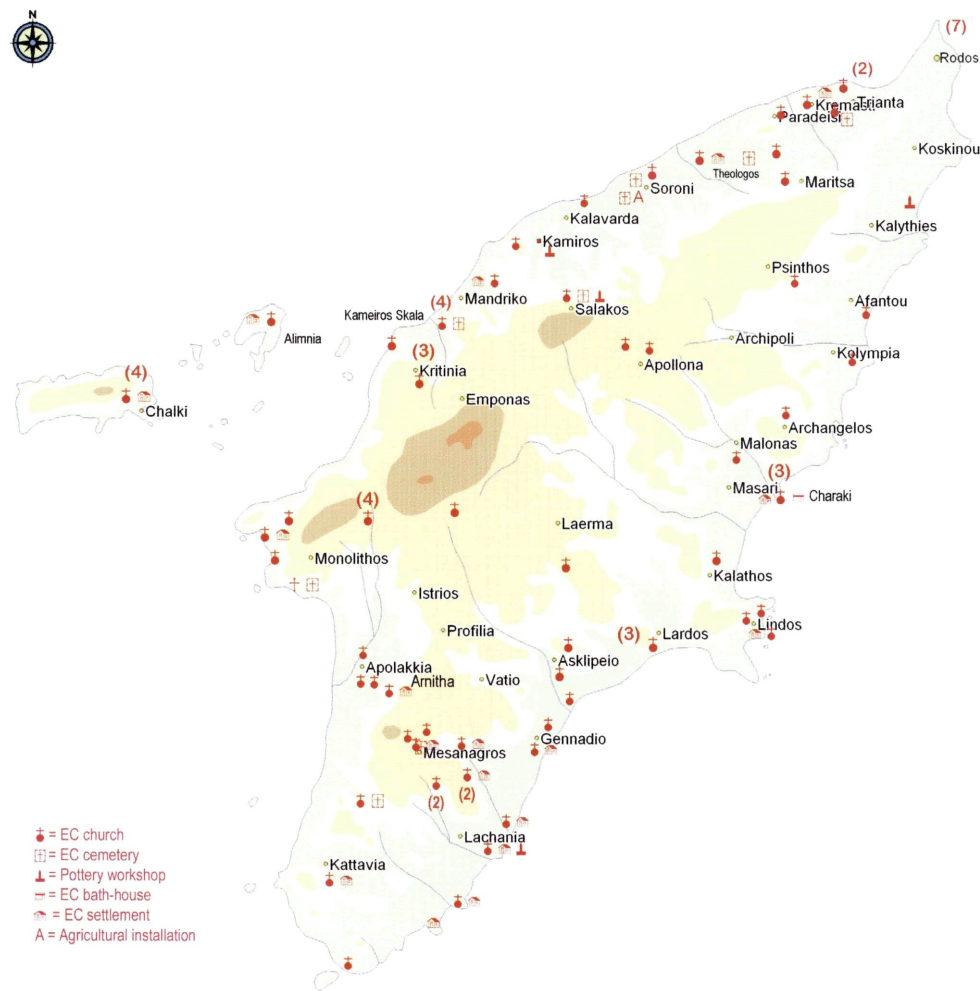


Fig. 2: Rhodes, Chalki and Alimnia

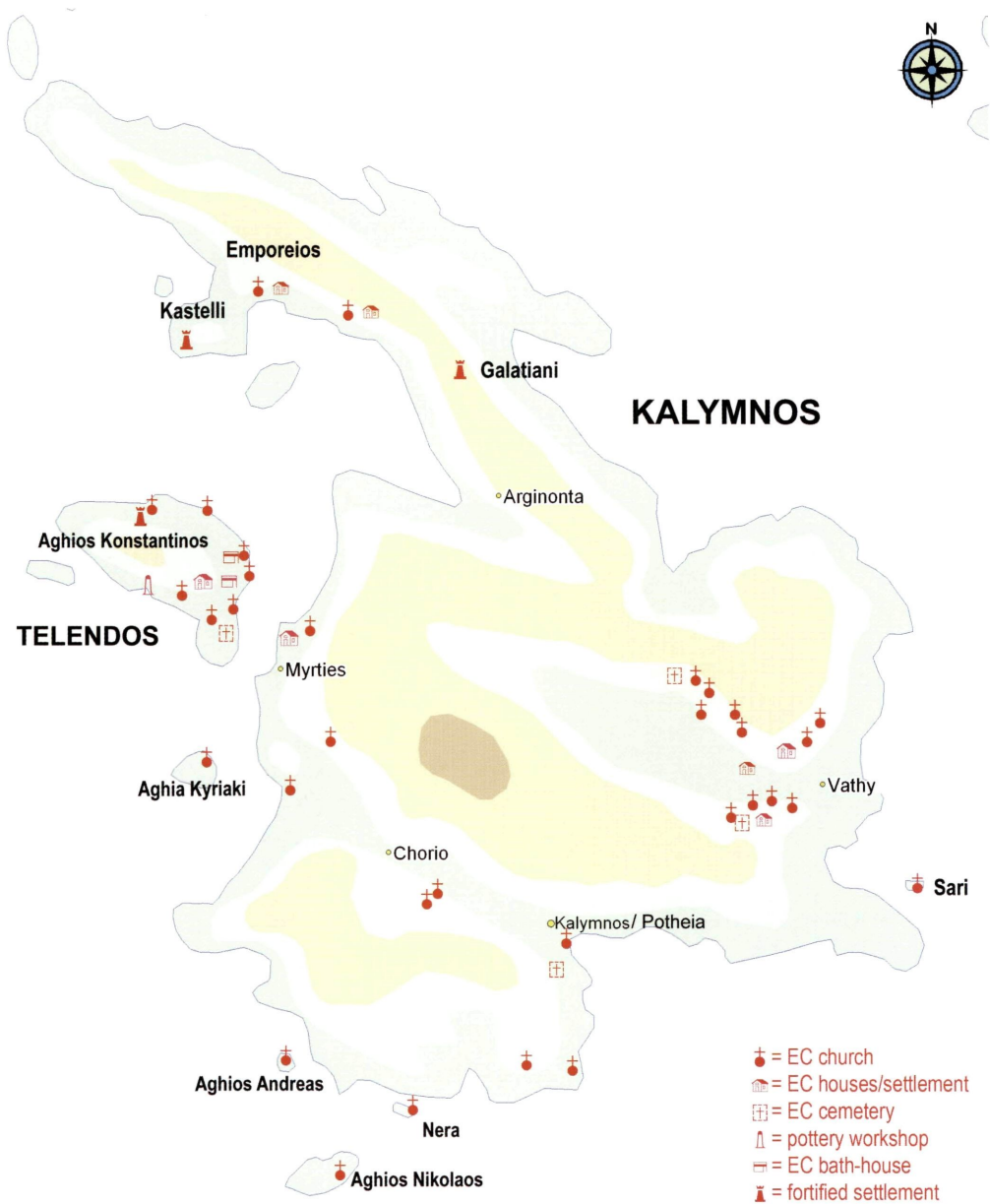


Fig. 3: Kalymnos

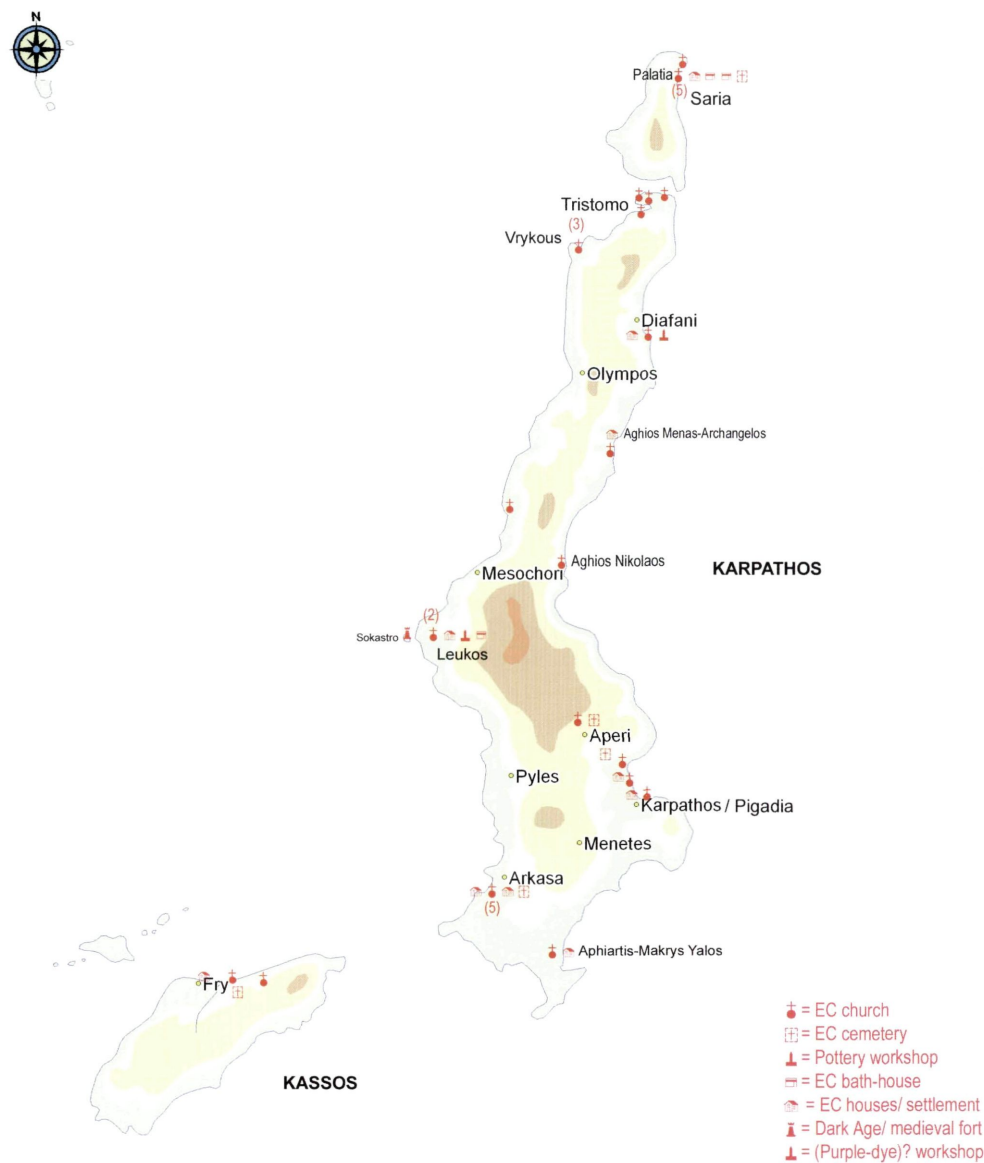


Fig. 4: Karpathos

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*The provenance
of coins found in Rhodes,
AD 498-1522: An overview*

Anna - Maria Kasdagli

THIS PRELIMINARY REPORT will focus on coins found in Rhodes from the monetary reform of the emperor Anastasius in AD 498 to the end of Hospitaller rule on the island (1522) currently kept in the storerooms of the Archaeological Service of the Dodecanese¹. The majority of these coins are of copper and were recovered in archaeological excavations, generally singly² and mostly in the town itself. Excavations in the villages and countryside have been limited in number, and they usually concentrated on Early Christian monuments, as these came under threat from modern development in coastal areas and villages. A small fraction of the coins have been handed in by private individuals who came across them by accident, either on the road or on their properties. Fear that archaeologists might descend upon them and dig up their land has prevented many people from being entirely open with their information, but as this fear disappears when a coin has been found outside the island the fact is usually recorded. Therefore, coins whose provenance is not stated in the record are likely to have been found on the island. The word 'provenance' in the title, however, and in the discussion to follow, will not signify where a coin was actually found, but where it originally came from. The aim is to present local patterns of supply and circulation, so that the material from Rhodes can be used for comparisons with the finds of other areas and ultimately contribute to a better understanding of monetary circulation and trade in the Aegean. Chance finds

¹ For an early survey of the coins of the Archaeological Service in Rhodes, see Kasdagli 2000, 267-274. For a more recent examination of finds from the walled town of Rhodes: Kasdagli 2007, 422-432.

² A small 7th century hoard of copper coins from the Gavoyannis property in the walled town of Rhodes is one of the exceptions; it is discussed in Nikolaou 2004, 229 and note 39. Another similar find of the same period found at the village of Trianda (Ialysos) by Ms. A. Nika in 1997: *ADelt* 52 (1997), Athens 2003, *Chronika*, 1155-7 is associated with church burials. For more details on the site: Nika 2006, 57. A small find of 17 worn 11th century folles (Classes B and C) on the Minatsis property, also discovered by Ms. Nika [*ADelt* 46 (1991), Athens 1996, *Chronika*, 504] again seems associated with burials. The custom of furnishing the dead with purses of small change is well attested in urban contexts in Rhodes from the 13th century onwards: Kasdagli 2007, 425-426.

of 'foreign' coins, most of which are unlikely to have served as local tender, are also included, as their loss on Rhodes may be of significance as a pointer to local conditions and outside contacts.

A serious difficulty in drawing information from the coins is their state of preservation. Many specimens are heavily corroded, and only partly legible. Sometimes it is only possible to assign a find to a broad period, such as the second half of the 6th century; at others the name of the mint may survive, but the identity of the ruler may be little more than speculation. Moreover, the writer cannot pretend to competence above the average in the identification of coins, and that in relation to Byzantium and the Hospitaller period. Coins from other lands pose serious problems, particularly when their condition is poor; the odd 'moneta militaris imitativa' may have escaped notice and Muslim coins from the period under examination are not systematically included because their quantity is negligible. Gold and silver coins of the period have been found in Rhodes, but few of them recently³; and most of them never reached the local archaeologists. Reports of discoveries are mostly hearsay⁴, but sometimes they serve to fill out a picture which is rather limited dealing, as it does, almost exclusively with copper coinage.

From the 5th to the 12th century Rhodes was part of the Byzantine empire, with only brief interruptions in the late 7th and late 11th centuries, when it remained in the hands of Muslim invaders for, at most, a couple of decades, although the historical record is far from clear. The 13th century is much confused, but if the coins on the ground reflect a measure of political reality, the degree of Byzantine control fluctuated. From the early 14th century to 1522 the grip of the Knights Hospitaller on Rhodes was firm. Thus, monetary circulation in Rhodes passed through a number of phases with reasonably well established termini.

From Anastasius to Constans II the name of the mint was obligingly stamped on the coins, and their provenance is relatively easy to work out, if a coin is moderately well preserved. In certain cases, as with the 'moneta militaris imitativa' this, of course, is not of much use, but such coins have yet to be recognized among local finds. From the reform of Anastasius to the end of the reign of Phocas, 254 coins are sufficiently well preserved to be assigned to a particular mint. A third of those belong to the reign of Justin II, and a further fourth to Justinian's. If, to these coins, are added those which preserve identification of the mint but not the ruler, the total rises to 297. Overall, the mint of Constantinople accounts for over half (172 coins, 58%). Antioch and Ni-

³ Kasdagli 1996, 329-334; *ADelt* 53 (1998), Chronika, B' 3, 951.

⁴ Careful negotiation has occasionally persuaded private individuals to provide impressions of discovered coins in plasticine to the writer anonymously.

comedia follow with 14% (40 coins) and 12% (36 coins) respectively. It is further worth remarking the shift in patterns of supply from the reign of Justinian to that of Justin II. Under Justinian Constantinopolitan issues represent about 60% (including roughly two thirds of the pentanummia with a Christogram found on the island), while under Justin II they fall to about 44%. Under Justin II, who also claims the highest rate of losses per year on Rhodes, as elsewhere⁵, Thessalonican half-folles are remarkably common: 14 coins as opposed to the meagre 2 for the reign of Maurice and just one under Justin I, Justinian and Tiberius II. The contribution of provincial mints to the supply of petty change is altogether more significant under Justin II (Table 1)⁶.

277 treated coins of Heraclius (Table 2) and 105 of Constans II are currently kept in the storerooms of the Archaeological Service in Rhodes. The conclusion that in the first half of the 7th century petty cash was far more plentiful than in the 6th is inescapable, although special circumstances such as the influx of refugees from Anatolia, fiscal measures under Heraclius or various military campaigns may be partly responsible for this⁷. Constantinopolitan folles of Heraclius peak twice (Pl. 3a): once in the early part of the reign, from 612 to 615, and mainly affecting Class 2, and once in the early to mid-630s. The former event is more acute, and is reflected in the smaller sample of coins from Nicomedia and Cyzicus; the latter looks rather more sustained, although the poor condition of many coins does not allow a precise plotting of its course across the years as the date of issue is illegible on over half the Class 5 folles (Table 2). Up to a point, this phenomenon must reflect mint output, although to determine the part played by fiscal policy as against local circumstances will require systematic comparison with patterns emerging from other sites and close examination of the historical background. The provenance of the coins of Constans II is, of course, Constantinople, with the exception of three dodecanummia. A few specimens of particularly crude craftsmanship (Pl. 1,1) on thin flans may well be Arab in origin; it is impossible to say whether they were locally minted or came from the outside. From the death of Constans to the appearance of type A anonymous folles, the circulation of copper as a regular medium of exchange apparently ceased.

⁵ Sidiropoulos 2000, 850.

⁶ For the identification and analysis of the coins in Tables 1 and 2 the main reference works used were Grierson DOC 2:1 and Hahn, *Moneta Imperii Byzantini*, vols 1–3, Vienna 1973–1981. P. Grierson, *Byzantine Coins*, London 1982 was also useful.

⁷ Grierson DOC 2:1, 24 ff., 217 ff.; Hendy 1985, 640–645.

11th century folles (Table 3)⁸, in their majority minted in Constantinople, are more frequent, but the period is dominated by a special phenomenon: clipped and very worn coins apparently of anonymous classes B (Pl. 1, nos 2–15) and C (Pl. 2, nos 2–5) and signed folles of Romanus IV (Pl. 2, nos 1–5) dominate the sample. The condition of the coins does not allow the writer to judge whether they are genuine Byzantine issues or imitations which originally resembled them in weight and fabric and were then clipped, to be later worn though long use. A comparison of weight ranges between the Dumbarton Oaks collection and the sample from Rhodes shows close correlation for Class A anonymous folles, and the same holds true for the folles of Nicephorus III as well as anonymous folles of types I, J and K, which are also present in Rhodes (Pls 3b–4c). Naturally, the collection at Dumbarton Oaks contains finer specimens than most of those found by archaeologists on Rhodes, which are usually corroded. Thus, for all the folles except Class A⁹, the Rhodian finds are on average about a gram lighter than the specimens at Dumbarton Oaks. However, comparisons between the coins of anonymous classes B and C, and signed folles of Romanus IV, show quite a different profile in the graphs (Pl. 5): the Rhodian coins, except for a few class B specimens – which seem to conform to the regular standard in appearance and weight – are far too light, worn shiny, with effaced obverse and the reverse often barely discernible as a shadow. All of them have been clipped into an oblong or squarish shape with rounded corners, but the axis of the cross on the reverse seems to have guided the clipping process; no other 11th century coins even remotely resemble them.

These clipped coins seem to have entered circulation after the brief and disastrous reign of Romanus IV (1068–1071), since his coins (or their imitations) are the last to have received this treatment. Class B clipped coins outnumber class C and Romanus IV specimens by a ratio of about 6:1. As the one noteworthy known local event of this time is the temporary control of Rhodes by Tzachas, Seljuk emir of Smyrna, sometime between 1090 and 1097, it seems reasonable to associate these coins with his presence in the area. It is, of course, unknown where they were minted or clipped, and what the range of their circulation has been, outside Rhodes. They may have been put into circulation by Tzachas himself, or be a slightly earlier emergency coinage to cover local needs, perhaps in association with naval operations in the region.

⁸ For the identification and dating of the coins in Table 3 the main reference work used was Grierson DOC 3:2.

⁹ It is no accident that a larger percentage of well preserved Class A folles from Rhodes were handed in by private citizens: larger, fine coins are easily spotted on the ground. Excavation coins are, as a rule, less well preserved.

Actually, the second seems more likely because the confused account of Tzachas' activities in respect to the islands opposite the Anatolian coastline does not suggest a lengthy occupation of Rhodes by his forces¹⁰. Still, the matter remains open because Byzantine sources, most notably Anna Comnena, may have belittled the scope of his activities and the obverse of the clipped coins –the representation of Christ– is generally effaced, either through wear or by design. When Rhodes was recovered by Byzantium under Alexius Comnenus, in 1092 or 1097, these coins may well have continued to co-exist with regular Byzantine issues, as they did not deviate materially from state ideology. Finds of 12th century Byzantine coins are limited (Table 4)¹¹, showing that the local economy was not particularly assisted by supplies of small change, and this might explain the sustained use of the clipped coins and their extreme wear.

The only Comnenian low denominations found in Rhodes in reasonable numbers are the tetartera of Alexius I, which should have entered the island about forty years after the clipped issues just discussed. Remarkably, only issues assigned by M. Hendy to the mint of Thessalonica have been recorded¹², and they mostly belong to the second and fourth coinage, at a ratio of 1:2. A few of the coins with the jewelled cross are lightweight and crude in comparison to the rest (Pl. 2, nos 3–4): they might be either the tail-end of the regular series or, more likely, imitations of the popular fourth coinage. The fact that no 'Constantinopolitan' –or billon– tetartera have been found possibly has to do with their composition: conceivably, official activity in Rhodes did not require the higher denomination the billon tetartera must have represented.

No other post-reform coins of Alexius have been found, and the coins of his successor, John II, can be practically counted on the fingers of one hand. The situation improves somewhat under Manuel I and Isaac II Angelus, with nearly twenty coins of each, but appearances may be misleading because about a hundred aspra trachea were recovered in too poor a state to be identified with any certainty, the difficulty being frequently compounded by clipping. These coins may belong either to the 12th or to the 13th century although, judging from the relative proportions of firmly identified 12th century Byzan-

¹⁰ Savvidis 1991, 71–102, with bibliography.

¹¹ For the identification and dating of the coins in Table 3 the main reference work used was Hendy DOC 4:1. The difficulties in interpreting the coinages of the period are recognized by the writer, who claims no competence in joining the ongoing discussion. It is unfortunate that such a valuable reference work as this has plates of lesser quality than its predecessor, Hendy's *Coinage and Money in the Byzantine Empire 1081–1261*, Dumbarton Oaks 1969.

¹² Hendy DOC 4:1, 199.

tine trachea and 13th century Latin and other imitatives, the chances are that most of them actually belong to the 13th century, and few of them are Byzantine imperial issues. A recently discovered small hoard of gold coins dates from the late 12th century. Interestingly, it contains just one hyperpyron of Manuel I Comnenus alongside six roughly contemporary Moorish coins¹³. These issues represent the form under which gold from the Niger generally entered Europe: they were melted down in European mints –including the Byzantine mint at Constantinople– to produce the local gold coins. This hoard is an indication that the trade route followed by African gold to Constantinople passed via Rhodes¹⁴.

The 13th century on Rhodes is distinguished by the operation of a local mint producing copper coins for a period of about eighty years¹⁵. The mint was active under the Gavalas brothers, who held the island until the middle of the century. Afterwards, the local economy seems to have enjoyed a varied supply of small change consisting of flat, clumsily crafted copper coins which were apparently locally produced. The provenance of some of these coins, which are anonymous, has met with a certain measure of caution –if not downright suspicion– from a number of scholars, but the recovery of several dozens of them in local excavations, including some new types never met before, seems to settle the matter for most of them. It seems that local governors, either Byzantine officials or Western adventurers, at least showed some kind of formal recognition to the allegiance owed the labouring Byzantine empire through the issues they minted to facilitate local trade.

There is no evidence that the lower denominations of the empire of Nicaea and the Palaeologi circulated on the island in significant quantity. Latin imitative issues –particularly small module varieties– were present on the island in comparative quantity, at least in the early part of the 13th century. Where they came from, and under what circumstances, is debatable; but if it seems likely that the well-known 'small module' coins came from Latin Constantinople (1204–1261) and may even have been produced by the Venetians sharing power there¹⁶, other scyphate finds were obviously minted elsewhere. Of the various imitative issues, most plentiful on Rhodes are the small module Latin series, with types A (38 coins) and G (27 coins) dominating. Types B and D are also represented by about ten coins each, the other types being

¹³ The find was discovered by N. Christodoulides and published in *ADelt* 53 (1998), loc. cit. See note 3 above.

¹⁴ Spufford 1988, p.168.

¹⁵ Schlumberger, 214–221 and pls. viii, ix, xix, xx; A. M. Kasdagli, 'Rhodian Copper Issues of the 13th Century. An Attempt at Classification', *Nomismatika Chronika* (in preparation).

¹⁶ Hendy *DOC* 4:2, 670 ff; Penna 1997, 7–21, 207–210.

merely present. A few other scyphate coins appear to be products of a mint using a slightly different technique in comparison to the familiar Latin and other imitative types (Pl. 2, nos 1–2). In addition, stray finds of silver imply that Seljuk and Armenian issues were quasi-regular tender, alongside the Byzantine gold of the Nicene emperors, or perhaps when this became scarce after the middle of the century¹⁷. Byzantine gold and silver on Rhodes has largely been linked to the local campaigns of Nicene troops during the reign of John III Ducas Vatatzes in *ca.* 1226, 1233 and 1249–50. The absence of Venetian silver or its imitations from local sites is worth noting.

In the 14th century, after the Hospitaller conquest of Rhodes, a first feeble minting effort by the first grand master, Foulques de Villaret, had little success: no coins of his have been recovered locally in fifty years of excavation. The monetary reform (*ca.* 1330) of the second master, Hélión de Villeneuve, who also straightened out the failing finances of his Order, was far more successful. Anonymous deniers, silver aspers and gigliati were minted in sufficient quantities to serve the local economy for the next ninety years or so. Of course, the output of the local mint varied from master to master, in quality as well as quantity. A dive in the quality of the local coinage is most noticeable under masters Heredia (1377–1396) and Naillac (1396–1421); a recovery apparently occurred late in the second's reign¹⁸. His successor, Antoni Fluvian (1421–1437), began the minting of gold ducats which continued in production until the end of Hospitaller rule. The issue of silver coins apparently suffered during the middle years of the 15th century, the gigliato being replaced by a smaller coin, the giannetto, and a reform took place towards the close of the century (*ca.* 1490) under grand master Pierre d' Aubusson.

According to the written sources, other western coins –particularly gold coins such as ducats, florins and French écus– were also regularly used by the Order itself, and, presumably, by the active local merchants and bankers' agents. With small change, the picture is different. Local deniers were apparently plentiful from the mid-14th century onwards, and no foreign issues challenged them as a means of exchange. The most frequently occurring foreign small coins are deniers minted in Sicily by the Aragonese in the first half of the 15th century. It is doubtful that they were locally used, but they must reflect a major supply route of the Order from the West: they are contemporary with large imports of pottery from the eastern littoral of the Iberian peninsula. Such commercial ties were surely fostered by grand masters Heredia, Fluvian and Zacosta, who came from Aragon and Catalonia. The second commonest foreign small coin is the Venetian tornesello but most finds are in

¹⁷ Kasdagli 1996.

¹⁸ Kasdagli 2002, 55, 64.

too poor a state of preservation to date with precision. They may well also reflect commercial ties, as the supply of imported glazed ware shifted from Spain to Italy in the course of the 15th century¹⁹. The mixed urban population and its connections with various regions of the Mediterranean and beyond may be held responsible for the discovery of other, rarer intrusions such as coins from Cyprus, Mytilene, the Balearics, Genoa, Milan, Portugal and England as well as reckoning counters produced in the German city of Nuremberg ca. 1500²⁰.

In concluding this presentation, it should be stressed that its aim is to alert to the evidence gradually emerging from Rhodes Byzantinists and Numismatists who methodically compare data from different sites in order to draw more general conclusions. The island does not rival the importance of sites like Athens, Corinth, Antioch and others. Its archaeologists toil on rescue excavations under adverse conditions and the finds recovered rarely enjoy the timely attention of conservation experts, although the dedicated contribution of local personnel should not be undervalued. Nevertheless, Rhodes was always a busy regional harbour of military as well as commercial significance and was never abandoned; it has been quite thoroughly explored by archaeologists under the pressure of modern development (which has been spectacular in the last half-century) and still continues to produce surprises which gradually fill out a remarkably vivid picture of its long history. Therefore, the coin data it supplies should not be overlooked by anyone interested in the economic and monetary history of the Aegean and the powers which have traditionally held sway in the region.

¹⁹ Kasdagli et al. 2007, 47-49.

²⁰ Kasdagli 1999, 119-132.

TABLE 1: *6th and 7th century coins by emperor, mint and denomination.*

ANASTASIUS (19 coins) CON NIKO

5N	5	1
10N	1	
20N	2	1
40N	9	
Total	17	2

JUSTIN I (27 coins) CON NIKO ANT AAE TES

5N	11		1		
10N					
12N				1	
20N	2		2		1
40N	8	1			
Total	21	1	3	1	1

522-537 CON

5N (Christogram)	31
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JUSTINIAN I (49 coins) CON NIKO KYZ ANT TES Sicily

5N	1			2		1
10N	2					
16N					1	
20N	2	3		4		
40N	19	3	3	8		
Total	24	6	3	14	1	1

JUSTIN II (73 coins) CON NIKO KYZ ANT TES

5N	19	5	2	5	1
20N	5	1		1	14
40N	8	9	2	1	
Total	32	15	4	7	15

TIBERIUS II (8 coins) CON NIKO ANT TES

5N	1			
10N	1			
20N			1	1
30N		1		
40N	2		1	
Total	4	1	2	1

MAURICE (27 coins)	CON	NIKO	KYZ	ANT	TES
5N	2				
10N	4	1		1	
20N				1	2
40N	5	3	3	4	1
Total	11	4	3	6	3

PHOCAS (20 coins)	CON	NIKO	KYZ	ANT
5N			1	
10N				2
20N	3	2	2	1
30N		1		
40N	3		2	3
Total	6	3	5	6

498-610 (ruler unidentified 43 coins)	CON	NIKO	KYZ	ANT	AΛE
5N	14	2	1	2	
10N	2				
12N					10
20N	3	2			
40N	7				
Total	26	4	1	2	10

HERACLIUS (277 coins)	CON	NIKO	KYZ	AΛE	TES	CAT	CART	SEL	ISA
6N					3				
10N	4	1			3	1			
12N				7					
20N	21				8		1	2	
30N	2								
40N	185	25	7		6				1
Total	212	26	7	10	17	1	1	2	1

CONSTANS II (105 coins)	CON	AΛE
10N	3	
12N		3
20N	4	
40N	95	
Total	102	3

TABLE 2: *Coins of Heraclius by mint and year of issue.****Half-folles***

Uncertain mint: 12
 Constantinople: 1 (611/2), 2 (612–615), 1 (615–624), 8 (1 countermarked) (629 ff.),
 1 (631/2), 1 (632/3), 2 (629/30), 2 (629–631), 1 (632 ff.), 1 (639/40),
 Carthage: 1 (611–17)
 Seleucia: 1 (616/7), 1 (618/9)
 Thessalonica: 1 (610/11, 1), 1 (612/3), 2 (612 ff.), 1 (613/4), 1 (614/5), 1 (617/8), 1 ([625/6]),

Three-quarter folles

Constantinople: 2 (629/30)

Folles

Uncertain mint: 1 (612/3), 1 (613/4), 1 (613/4), 7 (2 emperors in chlamys), 1 (613–5), 1
 (619/20), 3 (3 figures in chlamys), 3 (2 emperors, Heraclius in armour)

Constantinople:

Class 1

1 (610/1), 2 (611/2), 5 (612), 5 (year illegible)

Class 2

17 (613), 8 (613/4), 10 (614/5), 1 (615/6), 22 (year illegible)

Class 3

2 (615/6), 1 (616/7), 1 (618/9), 1 (619/20), 3 (year illegible)

Class 3 or 4

1 (year illegible)

Class 4

3 (624/5), 1 (625/6), 1 (626/7), 1 (year illegible)

Class 5

12 (629/30), 1 (631/2), 9 (632/3), 5 (633/4), 7 (634/5), 2 (635/6), 1 (635–7), 1 (639/40), 47 (year illegible)

Class 6

1 (639/40), 12 (year illegible)

Nicomedia: 3 (610/611), 1 (611/612), 5 (612/613), 1 (612–615), 8 (613/614), 1 (614/615), 3
 (613–615), 1 (616/617), 1 (624–629), 1 (629/630)

Cyzicus: 1 (610/611), 1 (611/612), 4 (612/613), 1 (year illegible)

Isaura: 1 (617/618)

Thessalonica: 2 (614/615), 1 (617/618), 1 (612–621), 2 (629/630)

TABLE 3: *Anonymous and signed folles, 970-1092.*

Anonymous uncertain	9	coins
Class A (John I – Romanus III, 970-1034) or imitations	32	»
Class B (Michael IV, 1034-41) or imitations	90	»
Class C (Michael V, 1042-) or imitations	27	»
Class D (1050s)	4	»
Folles of Constantine X (1059-1067)	6	»
Folles of Romanus IV (1068-1071) or imitations	17	»
Class G (Romanus IV, 1068-1071)	1	»
Follis of Michael VII (1071-1078)	1	»
Class H (Michael VII, 1071-1078 or Nicephorus III, 1078-81)	5	»
Folles of Nicephorus III (1078-1081)	12	»
Class I (Nicephorus III, 1078-81)	14	»
Class J (Alexius I Comnenus, 1081-1118)	8	»
Class K (Alexius I Comnenus, 1081-1118)	14	»

TABLE 4: *Byzantine coins 1092–1254*

Alexius I Comnenus (1092–1118)

Half tetartera

Thessalonica (?): 1 (DOC 4:1, 44),

Uncertain mint (Greece?): 1 (DOC 4:1, 45),

Tetartera

Thessalonica: 11 (DOC 4:1, Second Coinage), 1 (DOC 4:1, Third Coinage), 27 (DOC 4:1, Fourth Coinage)

Folles of Trebizond

1 ([Type 2, Alex. I]), 1 (Type 3, Alex. I), 1 (Type 7), 1 (Type 8), 1 (Bendall Type 3^{*})

John I Comnenus (1118–1143)

Tetartera

Constantinople: 2 (DOC 4:1, Type A)

Thessalonica: 1 (DOC 4:1, Type A)

Aspron trachy

Constantinople: 1 (DOC 4:1, Second Coinage)

Manuel I Comnenus (1143–1180)

Half-tetartera

Thessalonica: 1 (DOC 4:1, Type A),

Uncertain Greek mint: 1 (DOC 4:1, Type B), 1 (DOC 4:1, Type D)

Tetartera

Constantinople: 1 (DOC 4:1, Type D)

Thessalonica: 1 (DOC 4:1, Type A)

Aspra trachea

Constantinople: 2 (one clipped) (DOC 4:1, Third Coinage), 7 (DOC 4:1, Fourth Coinage)

Electron trachea

Constantinople: 1 (DOC 4:1, First Coinage), 2 (DOC 4:1, Second Coinage)

Hyperpyron

Constantinople: 1 (DOC 4:1, Variation II, with ligature Ϡ and ϡ on chlamys)

^{*} As in Grierson 1982, pl. 58, no 1004.

Andronicus I Comnenus (1183–1185)

Tetarteron

Thessalonica: 1 (DOC 4:1, Type A),

Aspron trachy

Constantinople: 1 (DOC 4:1, Var. I (2 dots) Var II [3 dots])

Isaac II Angelus (1185–1195/1203–1204)

Aspra trachea

Constantinople: 16 (4 clipped) (+1 likely) (DOC 4:1)

Alexius II Angelus (1195–1203)

Aspra trachea

Constantinople: 7 (2 clipped) (DOC 4:1)

Theodore I Lascaris (1204–1222)

Aspra trachea

Magnesia: 1 (+1 likely) (DOC 4:2, Type D)

John III Ducas Vatatzes (1222–1254)

Tetarteron

Magnesia: 1 (DOC 4:2, Type C)

Theodore Comnenus Ducas (1227–30)

Aspron trachy

Thessalonica: 1 (DOC 4:2, Type A)

John Comnenus Ducas (1237–44)

Aspron trachy

Thessalonica: 1 likely (DOC 4:2, Series I, Type B)

Isaac Comnenus of Cyprus (1185–1191)

Aspron trachy

Main mint (Nicosia?): 1 (DOC 4:2, Type A)

Latin Imitative

Large module

Constantinople: 1 (Type A), 1 (Type B), 1[+2 likely] (Type C), 1 (Type H)

Thessalonica: 2 (Type B), 2 (Type C)

Small module

35 (+3 likely) (Type A), 10 (+1 likely) (Type B), 3 (Type C), 10 (Type D), 3 (+1 likely) (Type E),
2 (+2 likely) (Type F), 25 (+2 likely) (Type G), 6 (+8 likely) (Uncertain)*Faithful ('Bulgarian') Imitative*

1 (Uncertain), 1 (Type A), 6 (+2 likely) (Type C)

Unidentified 12th–13th century

11 tetartera and 96 trachea



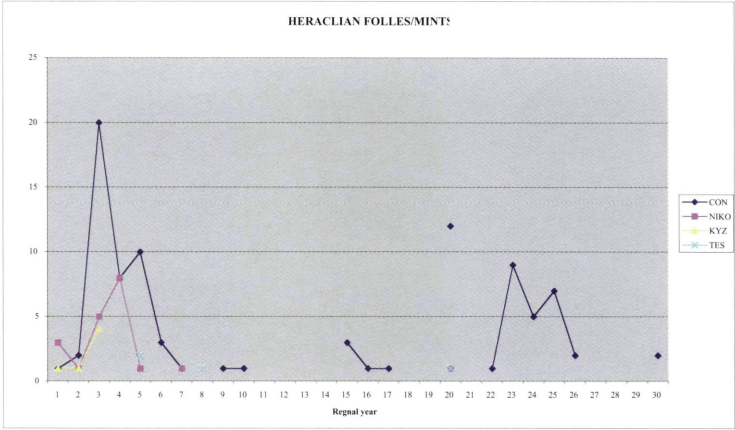
Plate 1



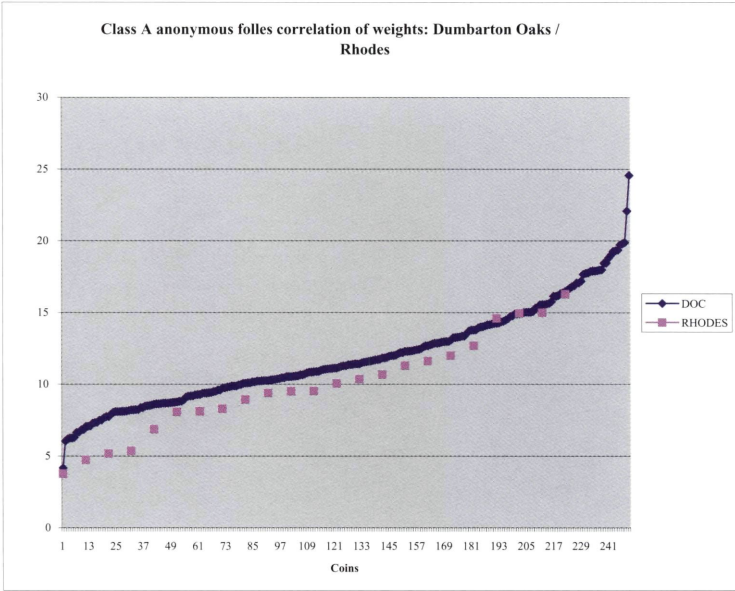
Plate 2

Plate 3

a



b



c

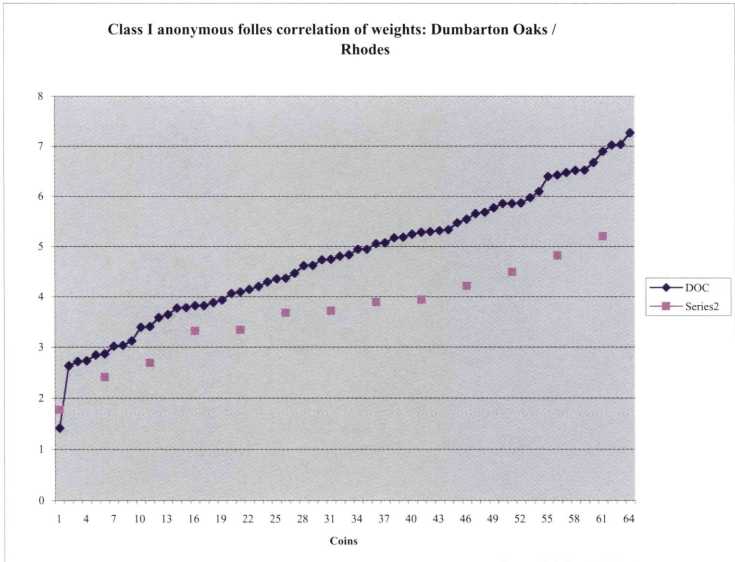
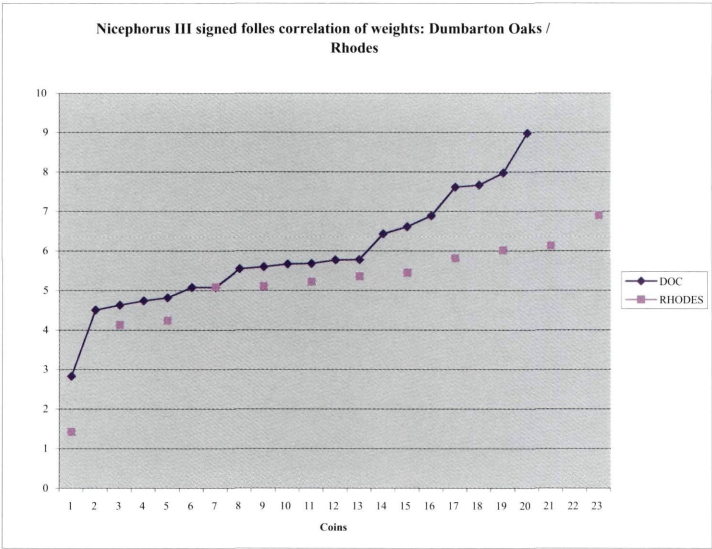
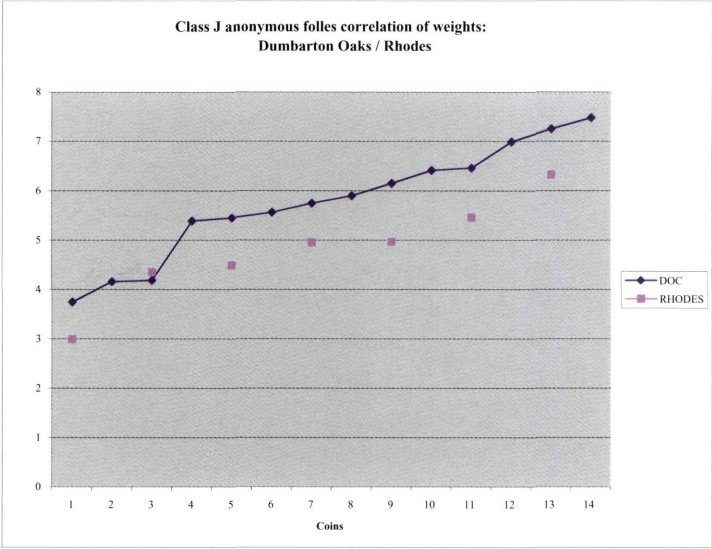


Plate 4

a



b



c

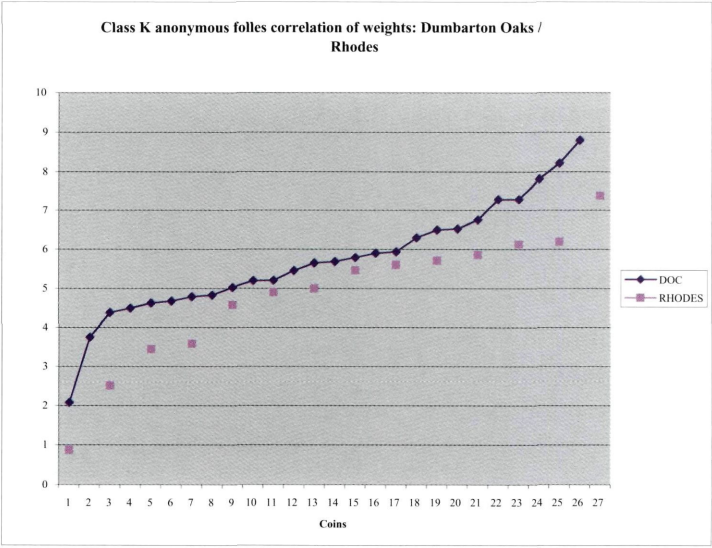
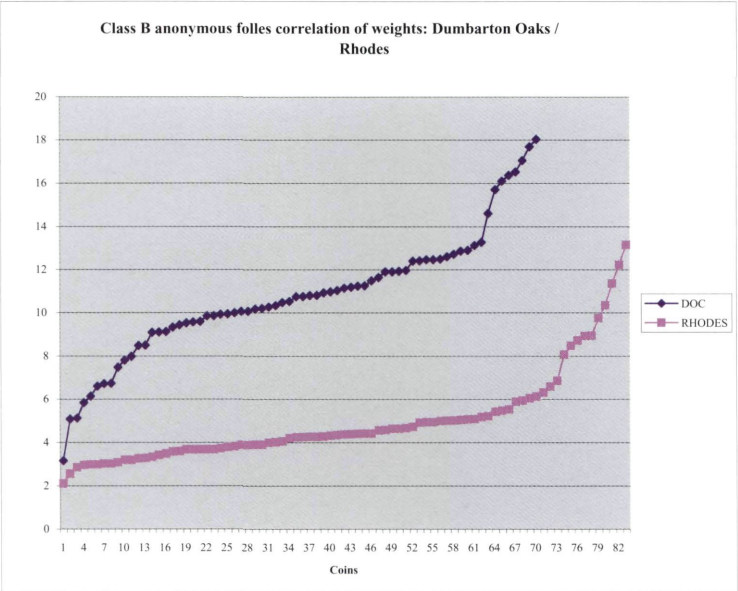
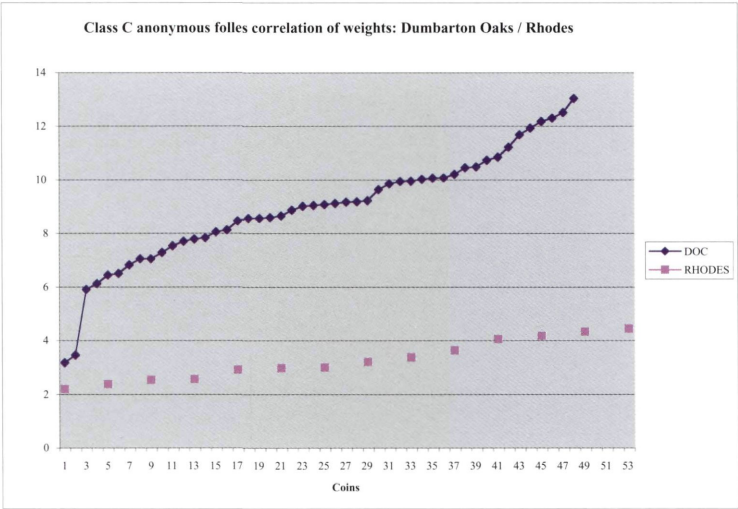


Plate 5

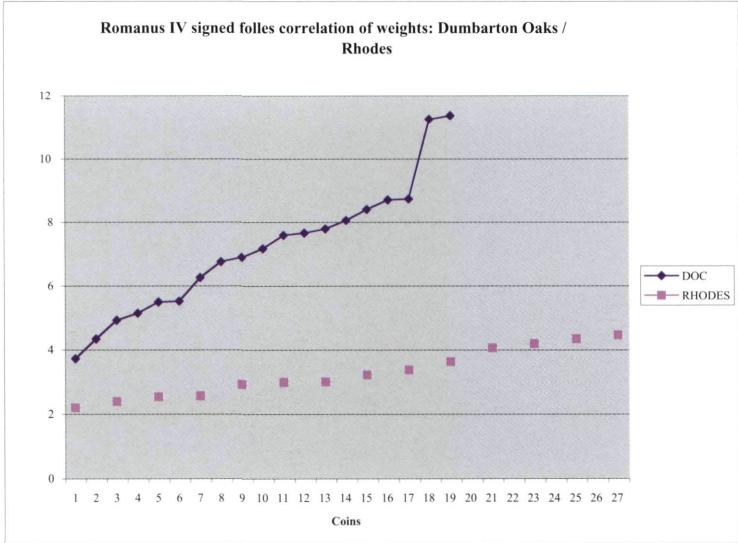
a



b



c



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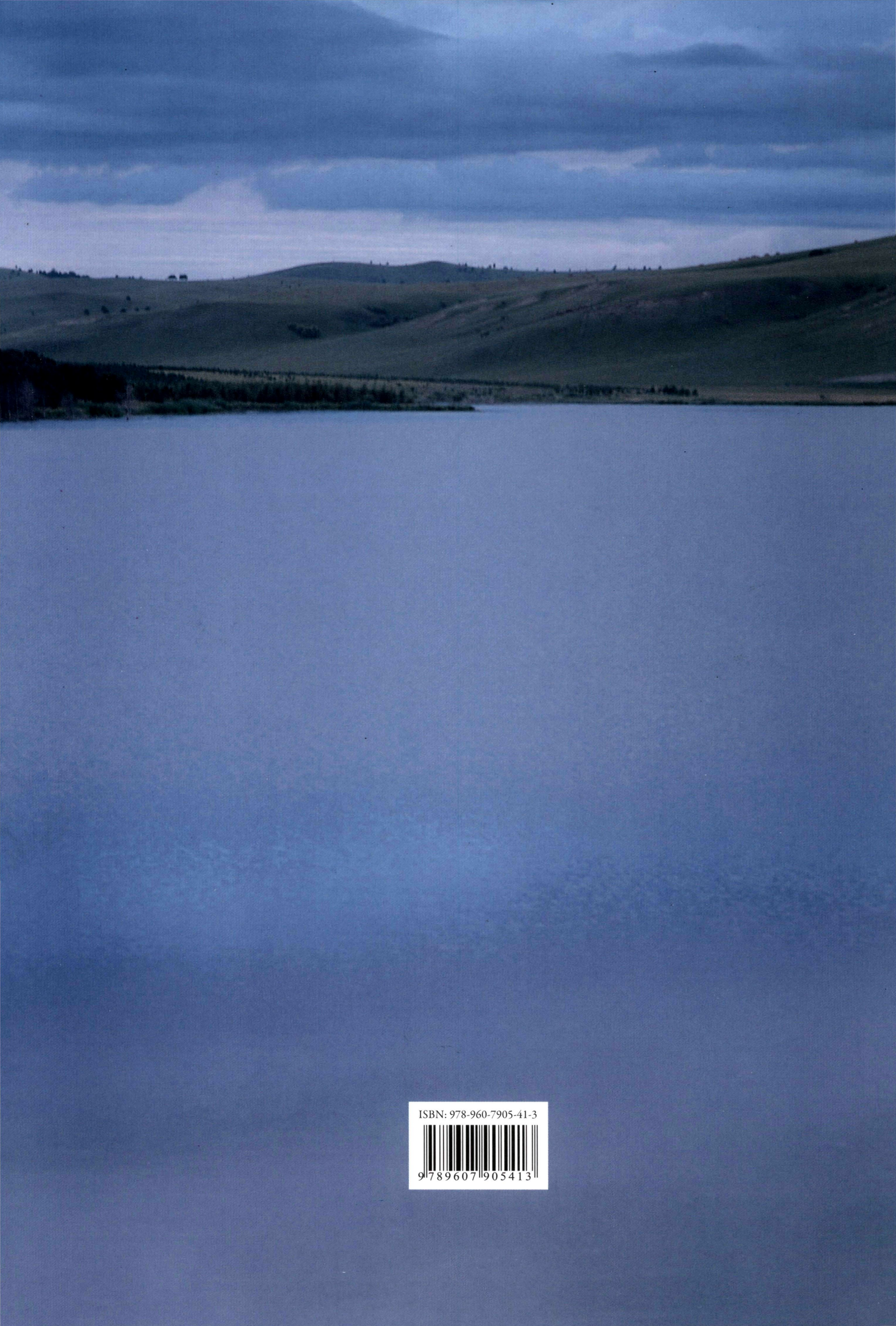
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