Aegina Kolonna
A case study on resilience within changing networks during the Greek Bronze Age (c. 3000-1000 BC)

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Introduction
The importance of the sea for past societies is often underestimated by modern researchers. In modern society the sea plays only a marginal role in everyday life. Grasping the importance of the sea in a time before travel over land and air became the most accessible forms of transportation can be challenging. In Greece, the sea has always played a crucial role in the lives of its people. Its geographical distribution of mainland and many islands in and around the Aegean sea has made its people dependent on the sea for its subsistence, trade and even social structures, both in the past and for a large part still in the present.

During the Greek Bronze Age (ca. 3000-1000 BC), towns were often located on the shores of the mainland, the Peloponnese, Crete, and many of the smaller islands. The sea played an important role in the subsistence of these towns, providing for instance a source of food for its inhabitants (Galik et al, 2010, p 750). However, the sea played an even more important role in the interconnectivity of the Aegean Bronze Age world. Most travel between sites within the Aegean took place over the sea.

In the course of the Greek Bronze Age the interconnectivity between towns fluctuated. Different trade networks prevailed at different times within the Aegean. These networks included different participating settlements and are recognized by specific assemblages. Short-distance connections led to distinct cultural zones, with shared cultural traits (Burns 2010, p. 293). Long distance trade played an important role in the acquisition of limited resources such as obsidian or metals. However, long-distance trade also was important in the transfer of new techniques, styles and social structures (Burns 2010, p. 294).

In Neolithic times the seas were first explored in canoes and longboats. This allowed people to travel between the Aegean Islands and have access to goods that were not originally available on the island itself. However, this way of traveling required a lot of manpower. At the start of the Bronze Age the sailing ship became available. The first depictions of ships with sails appear on Early Bronze Age Cycladic ‘frying pans’ (c. 2000 BC), but it is possible the ships themselves may have been around even longer (Maran 2007, p. 5). Wind-powered ships allowed for more cargo space and long distance travel. Trade between areas at far distances thus became possible and the first long distance trade networks came into being.

However, the development of trade networks in Greece was not a linear one (Maran 2007, p. 6). Different trade networks succeeded one another.

The responses to changing networks differ significantly between sites. The mainland, Crete and the Cyclades all see different developments in their trade connections over time, and even sites within these geographical units show many variations. Some towns grew to become powerful, well-connected centres for extended periods of time. Other sites collapsed or remained small and isolated. In this article I will focus on the changing trade connections of the, during the Bronze Age successful, centre of Aegina Kolonna.

Kolonna is located on the island of Aegina in the Saronic Gulf, south-west of Athens (fig. 1).

Fig. 1 The location of Aegina in the Saronic gulf. Kolonna is located at the red dot (sources: http://commons.wikimedia.org/wiki/File:Greece_map_modern.png; Wild et al 2009, p. 1014)
Iris Rom et al 2009, p. 1013). Even though the site’s location is close to mainland Greece, its development was quite different. Kolonna continued to prosper at times during the Bronze Age, when other areas saw a general decline (see table 1 for an overview of the Bronze Age periods).

The site developed its own central structure comparable to a Minoan palace during the Middle Bronze Age (ca. 2000-1600 BC). This was something unseen on the mainland at this time where architecture mainly consisted of small apsidal huts. The fact that Kolonna’s development was so different from the nearby mainland makes it an interesting case study. By investigating its social organization and trade connections it may be possible to draw conclusions on why this site remained successful even when nearby sites were not. The main research questions discussed in this paper will be: What was trade in the Bronze Age Aegean like? What role did the sea play in Bronze Age trade? How did Aegina Kolonna react to changing seascapes during the Bronze Age? And finally: Why was Kolonna able to remain successful throughout the Bronze Age, what role did the sea play in this?

Seascapes and Trade in the Bronze Age Aegean

To understand trade in Bronze Age Greece first of all the term “trade” needs to be defined. Typically the definition of trade would be: the exchange of goods and services within a mercantile or economic framework that may or may not involve currency (Burns 2010, p. 291). In the study of ancient civilizations, however, not only economic motives play a role, but political and ideological dynamics are of equal importance. Trade in the Greek Bronze Age thus encompasses all these activities. Goods as well as technologies, crafts and artistic statements were

| Table 1. Table of Aegean relative and absolute chronology (Shelmerdine 2008, p.4) |
|---|---|---|---|
| Chronology | Cretan | Cyclades | Greece | Egypt |
| 3100 | EM I | EC I | EH I | 1st-2nd Dynasty |
| 3000 |  |  |  | 3100/3000-2700 |
| 2900 | EM II | EC II | EH II | Old Kingdom |
| 2800 |  |  |  | (2700-2136) |
| 2700 | EM III | EC III | EH III | 1st Intermediate Period |
| 2600 |  |  |  | (2136-2023) |
| 2500 | MM I | MC I | MH I | Middle Kingdom |
| 2400 | MM II | MC II | MH II | (2116-1795) |
| 2300 | MM III | MC III | MH III | 2nd Intermediate Period |
| 2200 | LM I | LC I | LH I | (1795-1540) |
| 2100 | LM II | LC II | LH II | New Kingdom |
| 2000 | LM III | LC III | LH IIIA | (1540-1070) |
| 1900 | LM IIIA | | LH IIIA | | |
| 1800 | LM IIIA | | LH IIIA | | |
| 1700 | LM IIIB | | LH IIIB | | |
| 1600 | LM IIIC | | LH IIIC | | |
| 1500 | Subminoan | | Subminoan | | |
exchanged. The exchange of ideas could influence general ideas on political and social structures as well (Burns 2010, p. 291).

Throughout the Bronze Age, Greek societies stood in contact with large parts of Europe, Asia, the Near East and Africa. From these areas materials were imported that were not found in Greece. Examples of materials exchanged are copper from Cyprus, ivory from Egypt and the Levant, and amber from the Baltics (Burns 2010, p. 291). Alongside these raw materials, high-quality items were being exchanged. For instance Egyptian stone vessels appear on the mainland and many imported luxury goods are found in the palaces and the late Helladic shaft graves of Mycenae (Burns 2010, pp. 292-293). The role of elites within exchange networks seems therefore very important. Renfrew theorized about the role of elites in the increasing complexity of societies (Renfrew 1972). According to Renfrew, the rise of elites would be possible because of their role in the redistribution of goods. By collecting and redistributing agricultural goods, not everybody would have to spend time on farming. Craft specialization could develop. That the specialized craftsmen were attracted to the palaces is visible in traces of metal working, stone working and the production of higher quality goods at palace sites (Evely 2010, p. 391). Elites gained easy access to the specialized crafts and would use the products they produced in elite-life and elite-exchange. That elites controlled production and distribution is also visible in the development of administrative systems using seals and tablets at the palaces.

The movement of people and ideas is less visible in archaeology than the movement of goods, and is therefore a vivid topic of debate. Diffusion and invasion theories are often used to explain the spread of goods and ideas as well as the growing complexity of civilizations. It is true that in the Aegean the development of more complex forms of organization, such as the corridor houses during the Early Helladic period (EH IIB ca. 2400-2200 BC), and the Minoan and Mycenaean palaces, coincide with the arrival of goods and technologies from the more developed Near-East (Burns 2010, p. 292). The development of these more complex social organizations may not be merely the result of copying better developed “neighbours”, but can also result from internal changes, triggered by stress and opportunities the interactions offered. The importance of internal changes will become clearer when discussing Aegina further on. The island adapted to different networks in its own way even when nearby regions could or would not.

A society could thus benefit from trade. It provided access to non-local goods, technologies and developments in social and political structures. However, trading could also have merits on a more individual scale. Travel and the acquisition of foreign goods could for instance result in increased status which would have been the primary goal of establishing contacts in the first place (Helms 1988). Subsequently elites were able to rise when they established their previously discussed control of the social and economic benefits gained from long-distance trade.

The sea was thus more than a way of travel or a food source during the Bronze Age, it was a way to gain status. The sea offered an access to prestige for the groups who were able to exploit this. Through the sea trade networks, societies were able to become more complex in Greece. Without the focus of Bronze Age societies on the sea, the Bronze Age may have never seen the rise of the Minoan and Mycenaean palaces.

Aegina Kolonna

Aegina Kolonna has seen a long research history. Excavation works started in the late 19th century and have continued till today. The last fifteen years research on the site has been done by the Austrian Archaeological Institute. The Austrian research has focussed on establishing a relative chronological sequence of the site and synchronizing this chronology with sites on the Greek mainland (also using 14C). Another important research focus has been the identification of imports at Kolonna and the distribution of Aeginetan pottery outside the island (OAI 2013). This recent research has led to a clear picture of the Kolonna’s interregional contacts.

Kolonna was located on the strategically placed island Aegina in the Saronic Gulf, directly on the maritime crossroads of central mainland Greece, the Northeast Peloponnese, Cyclades and Crete. The site has seen a continuous occupation from Neolithic till Late Bronze Age times (Gauss 2010, p. 636). This continuous habitation is
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very rare in Greece, and shows that a unique community developed at the site. After the Late Bronze age the site was abandoned for a short period and possibly reoccupied from the Geometric period onwards. In Classical times a temple for Apollo was built on top of the site (6th century BC), destroying some of the older Bronze Age remains. Despite some destruction, detailed settlement and pottery sequences could be made. Fig. 2 gives an overview of the excavation plan. In the next section I will relate the different settlement phases and trade connections of Aegina Kolonna to the general changes in the Aegean during the major phases of the Greek Bronze Age. This way I want to find out in which way Kolonna responded to the major changes taking place in the wider context. Since Aegina is an island, all the influences resulting from changes occurring in the Aegean would have reached the island by sea travel. It is therefore an excellent case study to determine the role of the sea in changing communities and its importance in maintaining a sustainable society. Final Neolithic (FN)- Early Helladic I (EH I), c. 3600-2700 BC The earliest traces of habitation of Aegina Kolonna stem from the FN- EH I periods. However, much remains unclear about these periods. The early phases of the settlement have not yet been as extensively researched and publicised as the later periods; therefore one has to be very cautious when considering this period. During the late Neolithic period a focus on the household becomes visible in mainland Greece. Household units become clearly partitioned and contain enclosed external spaces (Tomkins 2010, pp. 36-42). This distinction between household and community becomes even clearer during the Final Neolithic. Some sites expanded such as Dimini and Knossos, but new small settlements in marginal areas were established as well. These isolated hamlets relied on mixed farming but were also exploiting their specific environment. For instance, a farm could resort to herding goats on less fertile grounds if nearby (Tomkins 2010, p. 40). The isolation of sites shows a more flexible understanding of the community during FN than the communities centring within the village in the previous period. Communities

Fig. 3 Overview of the Anatolian Trade Network (Sohaglu 2005).
were now more widely distributed throughout the landscape (Tomkins 2010, p. 38). Other important changes during LN/FN and the early Bronze Age occur in technology, organization and ownership of production. An increasing efficiency, intensity and output of production become visible and are suggestive of the involvement of a possibly more specialized producing group (Tomkins 2010, p. 38). The fact that more specialized products were now available as well as the increased distance between interacting areas, paved the way for long-distance exchange relationships. That this was indeed the case shows in an increased amount of FN sites located on the coast and the presence of small amounts of imports from regions further away.

At Aegina Kolonna the few architectural remains from FN-EHI consist of postholes cut in the bedrock, and thin walls preserved in a fill-layer. This fill-layer was used to level the settlement for building activities in EH II. Not much of the settlement is known from this period, but the fact that a site arose on the shores of a strategically placed island may indicate a focus on the sea. Within the EH II fill-layer most of the pottery dating to FN and EH I has been found. This pottery is presumed to have been produced mostly locally. Interesting is a small table with crusted decoration, indicative of a connection with Thessaly (Gauss 2010, p. 739). Since this period is poorly investigated at Kolonna, it is interesting to see that Aeginetan exports have been found at several locations. Aeginetan pottery has been found at Athens, Franchti and Kitsos cave, and Lerna (Gauss and Kiriatzi 2011, p. 242). At Franchti cave (an important cave-site in the eastern Peloponnesus), Aeginetan andesite, a volcanic rock present at Aegina, was identified within the pottery. Saronic andesite millstones were found on the Athenian Agora and at Vayia in eastern Corinthia (Gauss 2010, p. 739; Gauss and Kiriatzi 2011, p. 242).

These finds indicate early networks of exchange with Aegina participating. The network took place on a relatively short-distance scale, with mainly mainland connections (Vitelli 1993, pp. 209–211).

Early Helladic II (EHII), c. 2700-2200 BC

During the Early Bronze Age, society became increasingly complex in Greece. Next to the already existing short-range trade connections, traces of a larger network connecting the larger Aegean towns appear during EH II. Although not completely understood, this network is called the Anatolian Trade network (ATN). The Anatolian trade network stretched from Anatolia to Syria to the south and Mainland Greece to the west. In fig. 3 an overview of a large part of the network is shown. The network was in use during EH II and EH III but its role in the lives of Bronze Age Greeks is unclear. The ATN may have played a significant role in the trade of metal and technologies. At the time of the ATN settlements appear throughout the Aegean with monumental structures, such as fortifications and the “corridor houses”. The corridor house is a large building which often contains administrative seals. These buildings indicate the introduction of a centralised political power as well as a new economic system in the Early Bronze Age communities. It is a possibility that this social structure was disseminated through the network (Sahoglu 2005, p. 341).

The ATN is also visible in pottery assemblages. Some sites on the mainland contain specific Anatolianizing pottery not previously present in Greece called the Lefkandi I–Kastri group. Pottery belonging to this group has been found at a few sites including Lerna, Lefkandi and Petkakia on mainland Greece and Ayia Irini on Keos in the Cyclades (Sahoglu 2005, p. 340). Although the shapes are originally quite exotic, they are mainly locally produced. Aeginetan exports of EH II date are rare, but still export to nearby areas seems likely (Gauss and Kiriatzi 2011, p. 242). Archaeological remains show that Kolonna must have participated within the Anatolian Trade Network. The site revealed the presence of both monumental structures
and Anatolianizing pottery. Kolonna has its own corridor house, the “Haus am Felsrand”, later replaced by the even larger corridor house: the “Weisses haus” (fig. 4). Excavations of the corridor houses did not reveal seals. However, standardized weights of imported stones were found indicating participation in a network with standard measurement units. Lefkandi I-Kastri pottery has been found at Kolonna (Gauss 2010, p. 743) (fig. 5). The pottery is locally made but the shapes indicate an identification with the ATN. Aeginetans had a need for these wares alongside their traditionally made wares. This indicates the interest in new styles, introduction of new foods or new dining rituals which had a need for these wares, or even the immigration of Eastern people, who were used to their own wares.

Overall Kolonna shows a similar development as major sites on mainland Greece and Lerna on the Peloponnesus. It seems likely the areas belonged to a similar cultural group. The mainland groups stood in close contact with each other. Their close contacts allowed for the fast spread of new thoughts and ideas originating from the ATN. These thoughts and ideas led to an increasingly complex society to which Aegina adapted. It was not until EH III that Kolonna developed differently from the mainland.

Early Helladic III (EH III) and the Middle Helladic period (MH), c. 2200-1600 BC

The Middle Helladic period has been thoroughly investigated at Kolonna and shows some interesting developments of the site. EH III is generally seen as a period of social decline on mainland Greece. Many sites were abandoned and the corridor houses destroyed (Pullen 2008, pp. 36-38). The simple apsidal house became the prevailing domestic architectural form. Pottery fabric becomes coarser and new pottery shapes, of which the origin remains unclear, replace older forms (Pullen 2008, pp. 36-38). Because the changes seem rather abrupt, this period is often described as a time of crisis. Why these changes occurred remains doubtful. In the past, theories on climate change (Whitelaw 2000; Weiberg et al 2010; Weiss 2000), human impact on environment (Van Andel et al 1986; Van Andel et al 1990) and invasion (Maran 2007; Sahoglu 2005; Nicolis 2005; Cazella 2007) have all been formulated. Somewhere during EH III-MH I the Anatolian trade network collapsed too. Anatolianizing pottery disappeared from the Aegean assemblages. Mainland Greece did not recover from this collapse till the end of the Middle Bronze Age. Society remained simple. No centralized power or stratified social hierarchy seems to have been in place. Life was focussed around the household indicating a renewed focus on the family (Pullen 2008, pp. 36-38).

On Crete however, society recovered fast. Here the Minoan palaces developed during the Middle Bronze Age, signifying a central authority and centralized power over resources (Manning 2008, pp. 110-118). The Minoans rose to power in the rest of the Aegean as well. Although Crete did not participate very actively in the older Anatolian Trade Network, from MH times Minoan exports are found throughout the Aegean from early in the Middle Bronze Age. Minoan wares are over time often locally imitated (Knappett 2008 p. 130).

Aegina, although geographically close to the degenerated mainland, seems to have thrived during the MH period. Kolonna was heavily fortified during the EH III period continuing into the MH period. The defence works were continuously remodelled and strengthened indicating some form of threat to the town. On the location of the former corridor houses a metal furnace was found, indicating metallurgical activities.

At Kolonna the “Large Building Complex” was erected during early MH (fig. 6). This complex would stay in use throughout the period until a new building was erected in the Late Bronze Age (Gauss, Lindblom and Smetana 2011, p. 84). This building, covering an area somewhere between 230 and 680 m², was at least ten times larger than the average MH house (Gauss, 2010 p. 745). It is therefore thought it may have been Kolonna’s palatial centre. The finds of a seal and cylindrical clay objects suggest an administrative function of the building (Gauss 2010, p. 745).
Aeginetan pottery sees major changes during the MH. The locally produced matt-painted wares with geometric motives and potters marks are now produced and exported all over the Aegean. Within the before-mentioned Large Building Complex, high-quality pottery of local and imported pottery of Crete and the Cyclades was found (Gauss 2010, p. 745). Minoan imports arrive very early in the MH period. From MH II onwards they are also locally produced. Production technology of these wares is significantly different from traditional Aeginetan wares. The Minoan copies are wheel-made and may have been produced by Cretan settlers. Other Minoanizing finds (such as ritual stone hammers and double-axe mason's marks) indicate a Minoanized elite at Kolonna (Gauss 2010, p. 745).

It seems Kolonna was able to adapt to the loss of the Anatolian Trade Network and the threats that halted the development of communities on the mainland. A new naval power now dominated the Aegean but Kolonna was able to adapt. Kolonna kept participating in the long distance trade networks. Kolonna imported Minoan wares, but also adapted its social, political and economic structure to resemble the Cretan palaces. By doing this, the town was able to sustain an elite and with that a complex social organization. This combination helped Kolonna to remain successful during the MH period.

**Late Helladic (LH), ca. 1600-1050 BC**

During the Late Helladic period Kolonna was still inhabited. Later Classical building activities however, have destroyed much of the LH architecture, making it difficult to comprehend what happened at Kolonna during this period.

In the Late Bronze Age the trade networks in the Aegean once again changed. On the mainland the Mycenaens gained in power and became the main players within the Aegean networks (Shelton 2010, p. 143). The mainland becomes very wealthy, which is especially visible in funerary contexts. Large tombs with lavish grave goods (including many imports) dating to this period have been found at many major sites. The Mycenaens built their own palaces and fortified citadels (Shelton 2010, pp. 140-143). On Crete the old Minoan palaces suffer destructions and saw heavy Mycenaean influence from there on (Hallager 2010, pp. 153-157).

At Kolonna the Large Building Complex disappeared around LH I or II and a large potters kiln was constructed at its place. Kolonna seems to have become less important because of the growth of nearby palatial centres on the mainland. The site was still fortified and inhabited but was not a palatial centre (Gauss 2010, p. 746). Kolonna was still connected to the trade networks though. Mycenaen, Cypriote and south-east Aegean imports are present as well as clay seals. The bulk of pottery is however locally produced and fewer wares than during the MH period were imported. Export of Aegetinan wares flourishes in some areas, while it declines in others. At the start of the Late Bronze Age more Aegetinan wares are exported to Laconia and Lerna as well as it being exported further away to for instance Troy. In the Argolid, Corinthia and Cyclades the import of Aegetinan wares gradually declines, possibly...
due to increased competition of mainland pottery production (Gauss and Kiriatzis 2011, pp. 243-247). LH III B & C pottery at Kolonna is scarce, and late and Sub-Mycenaean even rarer. Also exports seem to decline heavily during this period. Only cooking wares are exported from LH III A onwards, and it is unclear if export took place after LH III C. This may indicate that the site was abandoned at the end of the Bronze Age.

Kolonna seems to have been able to thrive during the Late Helladic period, but it must have clearly felt mainland influence. It now was forced to compete with the nearby mainland powers. Kolonna stopped being a palatial centre but the presence of rich graves in this period indicates it was still quite prosperous (Gauss 2010, p. 747). The site had to specialise in the exporting of cooking wares over time to be able to compete with the mainland. However, the general decline of the mainland at the end of the LH period, affected Kolonna likewise. Apparently, the site was at this time too involved with the mainland at the time to sustain itself during this “crisis”.

**Conclusion: Kolonna, the Sea and the Power**

The case study of Kolonna suggests that the success of a Bronze Age town was closely related to its success at sea. Sea trade allowed social differentiation and an increased settlement complexity. The people of Aegina show that by staying involved in interregional trade and adapting to changes in marine trade networks a community would thrive. Whether the successful adaptations were due to Aegina’s strategic location or perhaps the international spirit of its inhabitants, Kolonna adjusted to all the major societal changes in the Aegean.

Kolonna participated within the earliest networks, profiting from the benefits the Anatolian Trade Network brought. Besides the new pottery shapes that were introduced, Kolonna appropriated a new economic/ political system. This may have been copied from Eastern societies, but just as likely developed internally to success fully participate within this huge network (Burns 2010, p. 291). When this network failed in EH III and large parts of the Aegean went in decline, Kolonna adjusted to the now successful Minoan trade networks. Minoan pottery was imported and copied. More importantly however, was that the Minoan power system was copied as well. Kolonna built its own version of a Minoan palace including its administrative function. The acquisition of status at Kolonna is comparable to the situation on Crete; elites controlled the access to prestige goods and probably specialized services such as metalworking as well. Religious beliefs may have even been copied, as Minoan ritual objects were also present at Kolonna (Gauss 2010, p. 747). Aegina at this point did not suffer much competition from the mainland and would have been the major power in the area till the Late Bronze Age. The first rich shaft grave on Aegina supports this idea; Aegina and its elite were able to acquire enormous wealth.

When Minoan civilization was finally replaced by the Mycenaeans, Kolonna adapted again. The town remained active within the trade networks, importing, exporting and administrating. However, due to the competition of nearby citadels in the Argolid, Attica, Corinthia and Trozenia, Aegina lost its unique position within the area. Aegina was no longer the independent palatial centre it once had been. Its exports decreased, being largely replaced by the more fashionable Mycenaean lustrous decorated pottery. When finally the Mycenaean societies collapsed, Aegina could no longer adjust as it did during previous changes. Kolonna was abandoned.

**Notes**

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**References**


