APPENDIX TWO

NATURAL AND SOCIAL TOPOGRAPHY OF AIGINA

A Note: The following list and accompanying comments do not presume to present an exhaustive account of the natural and social topography of ancient Aigina: further relevant information can be gathered from the reports of rescue excavations that have been taking place on the island since the 19th century (see reports published in the *Archaiologikon Deltion*), as well as from the dissertation of Nicholas Faraklas (1980), which includes the data collected during his field walks of the island. The sites chosen for discussion here are directly relevant to the subject of the book and help to provide a context for the Aiginetan cultic topography (Appendix 3).

Attested in Textual Sources

Pausanias 2.29.2–2.30.4 (Topographic Excerpts)

	2.29.(2.) Αἰγινῆται δὲ οἰκοῦσιν ἔχοντες τὴν νῆσον ἀπαντικρὺ τῆς Ἐπιδαυρίας. [...]
Aigina's most inaccessible approach by sea due to underwater rocks.	(6.) προσπλεῦσαι δὲ Αἴγινά ἐστι νήσων τῶν Ἑλληνίδων *ἀπορωτάτη· πέτραι τε γὰρ ὕφαλοι περὶ πᾶσαν καὶ χοιράδες* ἀνεστήκασι. μηχανήσασθαι δὲ ἐξεπίτηδες ταῦτα Αἰακόν φασι λῃστειῶν τῶν ἐκ θαλάσσης φόβῳ, καὶ πολεμίους ἀνδράσι μὴ ἄνευ κινδύνου εἶναι.
'Harbour where most ships anchor.' Temple of Aphrodite.	Πλησίον δὲ *τοῦ λιμένος ἐν ᾧ μάλιστα ὁρμίζονται* ναός ἐστιν Ἀφροδίτης,
'The most prominent place of the city.' The Aiakeion.	*ἐν ἐπιφανεστάτῳ δὲ τῆς πόλεως τὸ Αἰάκειον* καλούμενον, περίβολος τετράγωνος λευκοῦ λίθου. (7.) ἐπειργασμένοι δέ εἰσι κατὰ τὴν ἔσοδον οἱ παρὰ Αἰακόν ποτε ὑπὸ τῶν Ἑλλήνων σταλέντες· αἰτίαν δὲ τὴν αὐτὴν Αἰγινήταις καὶ οἱ λοιποὶ λέγουσιν. [...]
Inside the Aiakeion.	τοῦ περιβόλου δὲ ἐντὸς ἐλαῖαι πεφύκασιν ἐκ παλαιοῦ καὶ βωμός ἐστιν οὐ πολὺ ἀνέχων ἐκ τῆς γῆς· ὡς δὲ καὶ μνῆμα οὗτος ὁ βωμὸς εἴη Αἰακοῦ, λεγόμενόν (9.) ἐστιν ἐν ἀπορρήτῳ.
Grave of Phokos.	παρὰ δὲ τὸ Αἰάκειον *Φώκου τάφος* χῶμά ἐστι περιεχόμενον κύκλῳ κρηπῖδι, ἐπίκειται δέ οἱ λίθος τραχύς·

Kryptos Limen—The Hidden Harbour.	(10.) . . . οὕτως ἐς *τὸν Κρυπτὸν καλούμενον λιμένα* ἐσπλεύσας νύκτωρ ἐποίει χῶμα. καὶ τοῦτο μὲν ἐξεργασθὲν καὶ ἐς ἡμᾶς ἔτι μένει·
Theatre.	(11.) τοῦ λιμένος δὲ οὐ πόρρω τοῦ Κρυπτοῦ *θέατρόν* ἐστι θέας ἄξιον, κατὰ τὸ Ἐπιδαυρίων μάλιστα μέγεθος καὶ ἐργασίαν τὴν λοιπήν.
Stadium.	τούτου δὲ ὄπισθεν ᾠκοδόμηται *σταδίου* πλευρὰ μία, ἀνέχουσά τε αὐτὴ τὸ θέατρον καὶ ἀντὶ ἐρείσματος ἀνάλογον ἐκείνῳ χρωμένη.
Temples next to each other: Apollo, Artemis, and Dionysos.	2.30.(1.) *ναοὶ δὲ οὐ πολὺ ἀλλήλων ἀφεστηκότες* ὁ μὲν Ἀπόλλωνός ἐστιν, ὁ δὲ Ἀρτέμιδος, Διονύσῳ δὲ αὐτῶν ὁ τρίτος. Ἀπόλλωνι μὲν δὴ ξόανον γυμνόν ἐστι τέχνης τῆς ἐπιχωρίου, τῇ δὲ Ἀρτέμιδί ἐστιν ἐσθής, κατὰ ταὐτὰ δὲ καὶ τῷ Διονύσῳ· καὶ γένεια Διόνυσος ἔχων πεποίηται.
Asklepieion.	*τοῦ δὲ Ἀσκληπιοῦ τὸ ἱερὸν* ἔστι μὲν ἐτέρωθι (2.) καὶ οὐ ταύτῃ, λίθου δὲ ἄγαλμα καθήμενον.
Sanctuary of Hekate.	θεῶν δὲ Αἰγινῆται τιμῶσιν Ἑκάτην μάλιστα καὶ τελετὴν ἄγουσιν ἀνὰ πᾶν ἔτος Ἑκάτης, Ὀρφέα σφίσι τὸν Θρᾷκα καταστήσασθαι τὴν τελετὴν λέγοντες. *τοῦ περιβόλου δὲ ἐντὸς ναός ἐστι,* ξόανον δὲ ἔργον M ύ ρ ω ν ο ς , ὁμοίως ἐν πρόσωπόν τε καὶ τὸ λοιπὸν σῶμα. [. . .]
Sanctuary of Aphaia.	(3.) ἐν Αἰγίνῃ δὲ πρὸς τὸ ὄρος τοῦ Πανελληνίου Διὸς ἰοῦσιν, *ἔστιν Ἀφαίας ἱερόν*, ἐς ἣν καὶ Πίνδαρος ᾆσμα Αἰγινήτ αις ἐποίησε. [. . .] ἐπίκλησις δέ οἱ παρά τε Αἰγινήταις (4.) ἐστὶν Ἀφαία καὶ Δίκτυννα ἐν Κρήτῃ.
The Mountain of Panhellenios Zeus.	*τὸ δὲ Πανελλήνιον, ὅτι μὴ τοῦ Διὸς τὸ ἱερόν, ἄλλο τὸ ὄρος* ἀξιόλογον εἶχεν οὐδέν. τοῦτο δὲ τὸ ἱερὸν λέγουσιν Αἰακὸν ποιῆσαι τῷ Διί·
Sanctuary and images of Damia and Auxesia.	τὰ δὲ *ἐς τὴν Αὐξησίαν καὶ Δαμίαν*, [. . .] ταῦτα εἰπόντος Ἡροδότου καθ' ἕκαστον αὐτῶν ἐπ' ἀκριβὲς οὔ μοι γράφειν κατὰ γνώμην ἦν εὖ προειρημένα, πλὴν τοσοῦτό γε ὅτι εἶδόν τε τὰ ἀγάλματα καὶ ἔθυσά σφισι κατὰ <τὰ> αὐτὰ καθὰ δὴ καὶ Ἐλευσῖνι θύειν νομίζουσιν.

"Harbour Where Most Ships Anchor"

Inside ancient city walls.

Opinions:

(a) 'South Harbour B' (see below), identified as commercial, or merchant harbour.[1]

Kryptos Limen—"Hidden Harbour"

Inside ancient city walls.

Opinions:

(a) 'South Harbour A' (see below), according to most modern archaeologists.[2]
(b) North and west of the Cape Krasospelia (formerly Koursospelia), northeast tip of the island, according to Logiotatidou.[3]

"The most prominent place of the city"—*epiphaneistatos* [*topos*] *tês poleôs*

Inside city walls. Precise location unknown.

In addition to Pausanias (see above), *IG* IV² 750 uses the same expression, but it is possible that the two sources are not referring to the same place.

Opinions:

(a) Kolonna. This opinion has long been based on the fact that cape Kolonna is the best excavated site on Aigina, and is the only part of the ancient city available for exploration. There can be no doubt that it was a very important cultic and perhaps civic center, however, it cannot be the site identified as *epiphanestatos tes poleôs* by Pausanias.
(b) The site identified as such by Pausanias (2nd century CE) lies next to/opposite of the Kryptos limên and is occupied by the Aiakeion.
(c) The site described as the *epiphanestatos tes poleôs* by *IG* IV² 750 (1st century BCE, that is, some 200 years prior to Pausanias), is occupied by some cultic or civic structure where honorary decrees could be displayed.

Theatre and stadium

Inside city walls. Precise location unknown.

According to Pausanias (see above), the theatre and the stadium shared a wall, which possibly means that the back of the cavea rested against the raised bank of the stadium. In that case, rather than using natural topography, that is, a natural

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[1] Welter 1938, 39, fig. 36 (Handelshafen); Walter 1974, 6; 1993, 55, fig. 48 (no. 11—Handelshafen); Goette 2001, 335.

[2] Welter 1938, 39 (fig. 36: Kriegshafen Κρυπτος Λιμην), and 50; Walter 1974, 6; 1993, 54, fig. 48 (no. 12—Verborgener Hafen); Goette 2001, 335.

[3] Logiotatidou 1902, 9–14. Logiotatidou identifies as the *khoma* of Telamon the islet of Nisis (Nisida), off the northeastern coast of Aigina. As Kryptos Limen he identifies a small cave-like bay by the cape Krasospelia (Koursospelia (the Pirates' Cave) on the maps of the early 20th century). He estimates the size of the bay at 50m², and speculates that this small, "hidden," bay would have given the name *Kryptos* to a big artificial harbor that spread westward from cape Krasospelia towards cape Mavromoutsouno. At a distance of ca. 300m out into the open sea from Krasospilea, Logiotatidou identifies a man-made breakwater, which can only be seen faintly and in very calm weather.

slope, the cavea might have been partially, or entirely man-made, and so should not be necessarily sought in the natural folds of the landscape, but could be expected on level ground.
Opinions:

(a) On Kolonna.[4]
(b) Southeast of Apollo temple.[5]
(c) East of Kolonna.[6]

Agora(s)

Precise location unknown.
Pausnaias does not mention it, but it should be expected inside the city walls and probably fairly close to the coast and city harbours.

PINDAR *Nemean* 3.14–15: παλαίφατον εἴραν, "the agora of ancient fame," of the Myrmidons.[7] *Palaiphatos agora* might be a poetic paraphrase for Aigina or a reference to an actual place.
IG IV² 791 (2nd–1st BCE):

Διός, ἀ[γ]-
ορᾶς τᾶ[ς]
μέσζονος.

This inscription appears to be a horos marking a boundary between the "Greater Agora" and the property, or precinct, of Zeus. Although projections back in time should be made with caution, there is a good chance that the Hellenistic and the Classical agora would have been in the same place. The term "greater" raises the possibility that there was also a "lesser" agora, hence we might have to envision two agoras on Aigina, at least in the Hellenistic period.[8]

City walls (see Map 2)

Encircled the ancient city from north, south, and east, running down to the coast north of Kolonna and south of South Harbour B.
THUCYDIDES 1.108.4–5: ὡμολόγησαν δὲ καὶ οἱ Αἰγινῆται μετὰ ταῦτα τοῖς Ἀθηναίοις, τείχη τε περιελόντες καὶ ναῦς παραδόντες φόρον τε ταξάμενοι ἐς τὸν ἔπειτα χρόνον.

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[4] Welter 1938c, 54, fig. 36; Welter 1962, 32, fig. 1.
[5] Madritsch 1993, 157; Felten 2001, 128.
[6] Walter 1974, 6 (a terraced hill planted with gardens east of Kolonna hill, to the right of the Kazantzaki Rd, going north); 1993, 56–7. Walter points out that the topographic contours here could well accommodate the cavea of a theatre. Goette 2001, 337 (and fig. 100) adds that this theatre would have been built of marble: "this is indicated by rounded seats, which could still be seen in the last century."
[7] εἴρη, ἡ, according to *LSJ*, is old Ionic for ἀγορά, place of assembly. Pindar mss. BDP read ἀγοράν instead of εἴραν (Snell and Maehler 1987–1989).
[8] On Thasos, there were two harbors, a commercial and a military, the latter equipped with shipsheds, and similarly to Aigina called *kleistos limên*, "closed harbor" (Ps. Skylax *Periplous* 67), and the agora lay immediately to the southeast of the military harbour (see Grandjean and Salviat 2000, 53–57).

The city wall would have seen multiple stages of construction and reconstruction, from the Archaic to the Roman periods. Welter provided the first archaeological and chronological discussion of the remains, pointing out that the full circuit of walls that Cockerell and Leake had seen in the 19th century would have been Roman in date. None of those walls survive today above ground level.[9]

The original date of construction is not certain.[10] More certain is the demolition date of 458/7 BCE following the Aiginetan defeat by the Athenians (see Thuc. 1.108 above). The port, and so perhaps some of its fortifications, may have been restored through the financial support of Lampis, a metic resident of Aigina in the mid-4th century BCE, if we are to understand τὸ ἐμπόριον as "commercial harbor."[11]

In the north, the city wall came up from the coast (at about mid-point in the bay north of Kolonna) and continued east to include the Hill of the Windmills. Excavations traced the remains of the city wall in several places. One is at the corner of the Achileos and Aphaias streets, where two courses of rectangular blocks, 2.5m thick, have been discovered, while Achileos St in fact follows the course of the city wall all the way to the coast and marks its southern most extent.[12] A stretch of the 5th-century wall was discovered on the Telamonos street (property of V. Eudaimonos), which follows the eastward curve of the Achileos st. The wall's orientation north-south, however, suggests that at this point the wall had already turned northwards and so the area east of it would have been outside the city walls.[13] On the seaside, the wall used the moles of the South Harbour A and South Harbour B as its foundation.[14]

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[9] Welter 1938a, 480–485. Cockerell 1860 and Leake 1830, 437.

[10] Welter (1938b, 484) dates the fortifications of the South Harbour A and South Harbour B, as well as the city walls "immediately prior to the Persian wars." This dating should be viewed in the context of the "heraldless war" between Athens and Aigina in the same period, which is also designated as the time of the Aiginetan *thalassokratia,* according to Eusebius. The second building period Welter places in the late Roman times (ca. 250 CE) as suggested by coins of Julia Domna (Milbanks 1925, pl. IV, 6 and 7).

[11] Demosthenes 23 (In Aristocratem). 211: πῶς γὰρ οὐκ αἰσχρὸν Αἰγινήτας μὲν τουτουσί, νῆσον οἰκοῦντας οὕτω μικρὰν καὶ οὐδὲν ἔχοντας ἐφ'ᾧ μέγα χρὴ φρονεῖν αὐτούς, Λάμπιν, ὃς μέγιστα ναυκλήρια κέκτηται τῶν Ἑλλήνων, καὶ κατεσκεύακεν τὴν πόλιν αὐτοῖς καὶ τὸ ἐμπόριον, μηδέπω καὶ τήμερον πολίτην πεποιῆσθαι, ἀλλὰ μόλις τῆς ἀτελείας αὐτὸν ἠξιωκέναι τῆς τοῦ μετοικίου. ("Is it not discreditable that, whereas the Aeginetans yonder, who inhabit that insignificant island, and have nothing whatever to be proud of, have never to this day given their citizenship to Lampis, the largest ship-owner in Hellas, who fitted out their city and their seaport, but have reluctantly rewarded him merely with exemption from the alien-tax." Trans. A. T. Murray). See discussion in Knoblauch 1972, 84.

[12] Welter 1938b, 481.

[13] ΑΔ 40 (1985) Β′ Χρονικα 51–52 (= *AR* 39:13): a section of the wall, 13m in length and 6.65 in width, is built on the bedrock that slopes west to east. Due to the slope, the eastern, external face, of the wall is preserved to the height of six courses (2.76m), and the western wall to the height of three courses (1.6m). The stone was quarried on site, and the wall is dated by the fill, which contained Late Archaic and Early Classical sherds. Also, of note is the fact that the base of the wall is at a depth of 3.45m below the surface of the modern street (Telamonos).

[14] Welter 1938b.

"The So-Called Old City" (see further discussion in 7.11.2)

Location unknown.

HERODOTUS 6.88–9, παλαιὴ καλεομένη πόλις.

Opinions:

(a) Outside Aigina-town, at Ag. Marina, on the East coast of Aigina.[15]

(b) Kolonna, where Felten also puts the Thesmophorion, but it might be a mistake to read Herodotus so as to conjoin the two (see 7.11.3).[16]

(c) Part of Aigina-town that included the North Harbour, Kolonna, South Harbour A and the inland part of the town east of these two, and excluded the South Harbour B and its vicinity.[17]

"Oie" in the hinterland (*mesogaia*)

20 stades inland from the city. Precise location unknown.

HERODOTUS 5.83: καὶ ἱδρύσαντο τῆς σφετέρης χώρης ἐς τὴν μεσόγαιαν, τῇ Οἴη μὲν ἐστὶ οὔνομα, στάδια δὲ μάλιστα κῃ ἀπὸ πόλιος ὡς εἴκοσι ἀπέχει.

The site of the sanctuary of Damia and Auxesia. The distance provided by Herodotus should not be taken as an absolute measurement, but as an approximation of distance: it is probably equivalent to 3.6–3.8km (if we take a stadion = 180–190m).

Opinions:

(a) Palaiochora.[18]

(b) Judging by the distance, it would be in the plain west of or just in the foothills of Dragonera. The inventory of the sanctuary (*IG* IV^2 787) was found built into the wall of the aqueduct (see below), which according to Gräber and Thiersch, ran in an almost straight line in the easterly direction from Aigina town towards Dragonera (see Map 1). It seems likely that the sanctuary would be somewhere in the plain west of the Dragonera range.

(c) Faraklas identifies his catalog site 24 (Profitis Elias) as Oie.[19] The site is associated with a chapel of Profitis Ilias located on a small height, which on its west side drops down to the rema of Agios Giorgios (called by Faraklas *rema tou Moulou*). His identification of the site as Oie is based on the calculation of distance (20 × 180m = 3.6km), and the discovery on

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[15] Welter 1949, 145–148.

[16] Felten 2007b, 28: "Thesmophorion, mentioned by Herodotus as situated in the "so-called old town"—a name that perhaps again indicates the consciousness of the Aiginetans of the old history of the Kolonna hill."

[17] Faraklas (1980, 78, fig. 58) argues that to determine which part of Aigina-town would have been called "old city" in Herodotus' time, we need to know the date of the city's fortification walls; those he surmises were a response to the Themistoklean walls of Athens. Before then, the area of the South Harbour B would have been an 'emporion,' a trading center outside of the town, while the town proper would have been to the north and surrounded by a fortification wall, which after 478 was extended south to include the South Harbour B and its vicinity.

[18] Goette (2001, 338) identifies Palaiochora with Oie.

[19] Faraklas 1980, 49.

the ground of pottery dating, in his estimation, from the prehistoric to Roman.

"Tripyrgia" ("The Place of Three towers")

16 stadia inland from the Herakleion.

Precise location unknown.

XENOPHON 5.1.10, καὶ ἀνέβαινον τοῦ Ἡρακλείου ἐπέκεινα ὡς ἑκκαίδεκα σταδίους, ἔνθα ἡ Τριπυργία καλεῖται.

Opinions:

(a) The area of Nisida, on the northeast coast of Aigina, between cape Mavromoutsouno (or Mavromoutino) in the west and cape Tourlo in the east.[20] This is the identification of Logiotatidou who reports the presence of three towers in that area. Tower 1 (pyrgos) is located above the bay of Krasospilea; it is rectangular in plan and rises up to 2m in height. At the foot of the hill topped by Tower 1 there was a row of worked rectangular blocks that formed a wall. Opposite this wall there was a small mound surrounded by a rectangular perizoma, ca. 7m (west side) × 14m (north side), with other sides incomplete. Tower 2 was directly opposite the cape Mavromoutino. It is circular, consisting of several courses of worked stones. Northwest of Mavromoutsouno was Tower 3, rectangular on its north side and circular on its south side. The three towers, all ancient in Logiotatidou's view, gave rise to the name Tripyrgia. The same three towers are also marked as ancient structures on the maps of Lampadarios and Thiersch.

(b) Between Aigina-town and the Herakleion; and at a distance of about sixteen stadia (ca. 3km) away from the Herakleion:[21] more specifically, three adjacent locations west of the rema of Vagia, close to the coast: Tsidrari A, Vigla, and Tsidrari B.[22]

Asopis Krênê—Asopis Fountain (see discussion in 7.3.2)

Location unknown.

ETYMOLOGICUM MAGNUM s.v. Ἀμφιφορίτης (. . . περὶ τὴν Ἀσωπίδα κρήνην).

Opinions:

(a) In the city centre, in the agora.[23]

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[20] Logiotatidou 1902, 10–13. Logiotatidou calls himself a Ταγματαρχης του Ιππικου (retired Colonel of the Cavalry). His essay was published as a rebuttal of doubts expressed by Mr. Kavvadias, Director of the Archaeological department of the Ministry of Education, with respect to the identification of Tripyrgia on Aigina.

[21] Faraklas 1980, 80.

[22] Faraklas 1980, 48, catalogue site no. 19 (Τσιδράρι Α), catalogue site no. 20 (Vigla, another small hill, 104m, at a distance of ca. 600m southwest from Τσιδράρι Α), and p. 59, catalogue site no. 46 (Τσιδράρι Β—a northeast extension of the Tsindari hill—site no. 19). All three sites are marked on the map of Thiersch, showing ancient architectural remains. Faraklas describes them as defensive, or watchtowers, as well as residential.

[23] Fearn 2007, 115 on the basis of placing the Asopian water in the same location as the "agora of ancient fame" (παλαίφατον εἴραν) of the Myrmidons (Pindar N. 3.14–15).

Asôpian Water

Location unknown.

PINDAR (*N.* 3.4–5) ὕδατι γάρ . . . |ἐπ᾽ Ἀσωπίῳ.

Opinions:

(a) Same as the Asopis krene.[24]

(b) A hypothetical river Asopos on Aigina (so the scholiast on Pindar Didymus in reference to this passage). An identification with modern Skoteini rema on the west coast of Aigina was proposed by local topographists in the early 20th century on the basis of etymological speculation.[25]

Identified on the Basis of Archaeological Data

[Acropolis]

We have no ancient source that refers to an acropolis on Aigina, however many scholars, and in particular the excavators of the Kolonna site, designate cape Kolonna as the Acropolis.[26] It is debatable how justified or necessary such identification is: the cape rises to about 12m above sea level (if we adjust to sea-level rise, its top may have been 14m above sea level in Classical antiquity—see below). The fact that it is not used in ancient sources, and in particular not used by Pausanias, whose eyewitness account is the only ancient one surviving for Aigina, should not be taken lightly.

Kolonna Wall Circuit

Extensive remains of the Archaic, Hellenistic, and Roman walls encircling the Kolonna hill, have survived on the north and east sides of the hill. Sometimes these walls are described as 'temenos wall,' 'acropolis wall,' retaining wall, or *diateichisma* in archaeological publications (see Map 2).[27]

City Harbours

– **North Harbour** (north of Kolonna)

The natural crescent-shaped bay north of Kolonna was divided in half by an ancient breakwater, positioned roughly in west-east direction with respect to the coast. A city wall seems to have come down to the coast at the same point where it would have connected with the breakwater had it continued into the sea. Whether the two features are contemporary is unclear (see below).

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[24] So the scholiast Kallistratos in response to Didymus.

[25] Mpetros and Lykoudes 1927, 462 derive Asôpos from ἄσσον and compare it with the meaning of the modern river name—Skoteini ("dark"). The map of Lampadriou (1904) also indicates in parentheses "αρχ. Ἀσωπός ποταμος" next to π. Σκοτεινῆς. So does the modern morphological map produced by the Greek Γεωγραφικη Υπηρεσια Στρατου.

[26] Felten 2007b and 2005; Knoblauch 1972, 52; Faraklas 1980, 79, fig. 58.

[27] Felten 2007b, 28 (retaining wall); Felten 2007b, 29 (temenos wall); Pollhammer 2003; *AR* 47:18; *AR* 52:15.

According to Knoblauch, two lines of walls can be discerned on the coast of the North Bay: one runs just along the modern coastline, made without much care from stones of different shapes and sizes, whose date is unknown; the other is uphill from the coastline, an impressive double-sided wall 3.5m wide that can be traced for about 200m to the middle of the bay. From the end of that wall further northwards, wall remains are of a different character, which seem to belong to a complex of cellars,[28] perhaps warehouses.

The Breakwater[29]
The description of its physical dimensions is based on Knoblauch.[30] The east end of the breakwater lines up with the midpoint of the coastline of the North Bay. It stretches into the sea at a slight angle (southwest) to the coastline. Beginning about 67m away from the coast, its far end reaches out ca. 300m into the bay. The east end of the breakwater touches the bottom of the sea at a depth of 1.7 to 2.0m. The upper surface of the breakwater is not horizontal but falls from 2m to 4.15m below the modern sea level in the direction of the sea. It was made of large, unworked blocks, ca. 0.5m × 0.35m, in some places fused with potsherds.

– **South Harbour A** (just south of Kolonna)
The northern harbour of the South Bay. Identified as naval harbour on the basis of shipsheds:[31] fifty six altogether according to the calculations of Kalliope Baika.[32] Detailed discussion is provided by Knoblauch.[33] Leake visited the island in 1806 and noted two harbors with remains of moles, both south of Kolonna, adding that between these two south harbours there was a row of small reservoirs, connected between themselves and separated from the sea by a wall.[34]

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[28] Knoblauch 1972, 59.

[29] Bursian (1868, 81) noted a dam in the North Harbour. Logiotatidou (1902, 10) reported another breakwater on the island: at a distance of ca. 300m into the open sea from the coast of the bay of Krasospilea/Koursospilea, northeast tip of Aigina, visible only in calm weather. A jetty is reported at cape Livadia, the Bay of Ag. Thomas, on the north coast of Aigina (Faraklas 1908, 43, catalogue site no. 5).

[30] Knoblauch (1972, 59–60) notes the similarity in the construction of this breakwater with the examples from Eretria and Hestiaia described by Georgiades (1907, pls. 3 and 6).

[31] Welter 1962, 29.

[32] Hansen 2006, 15, n. 17: "The complexes could be reconstructed to a maximum of 16 shipsheds on the north side and 14 on the south. In addition the harbour could have held 26 more shipsheds, i.e., a total of 56, if a third complex existed in the east side of the basin, though no archaeological remains have been found yet"). Welter (1938b, 482) reported 24 shipsheds.

[33] Knoblauch 1972, 76–79, fig. 19, pl. 27a.

[34] Leake 1830, 434.

– **South Harbour B** (south of South Harbour A)
The southern harbour of the South Bay. Identified as commercial harbour by most scholars,[35] possibly the harbour restored by Lampis (see above sub "city walls"), and further renovated by Julia Domna, as indicated by coins.[36]

The question of sea-level rise and the dating of harbours
The social and economic history of the city would be much clarified if we could determine the chronology of use for the three harbours listed above: were they in use all at once, or in some sequence? Pausanias (see above) mentions only two harbours. The relative position of all other topographic features mentioned by Pausanias depends on how we identify the "Harbour where most ships anchor." Since the identification of Kryptos Limen seems to be secured by the presence of shipsheds in South Harbour A, it follows that the "Harbour where most ships anchor" would have to be either the North Harbour or South Harbour B.

Knoblauch calculates that due to sea-level rise, the breakwater that was protecting the North Harbour would have been rendered useless (either sunk or projecting to an insufficient height above water) already by the Classical period, and would have thus prompted the construction of the other two harbours. Thus, in his opinion, South Harbour B becomes the only candidate for the "Harbour where most ships anchor" in the Roman period.[37] He also explains that the city wall would have come down through the middle of the North Harbour only after that Harbour would have gone out of use.[38]

The question of the relative sea-level rise in the Aegean and in the wider Mediterranean is far from settled and scholars periodically return to it. In the early 20th century, Negris (1904) estimated the sea level rise for Aigina since ca. 100 BCE at 2m. Philippson argued that the island had risen evenly on all sides due to tectonic movements, and the sinking of the coast since the Classical time was ca. 3m.[39] On that basis, Knoblauch compared the relative depths at different points along the coast, showing that the sea level was 2.5m less than now in the South harbour, 3.5m less on the sea side of the mole in the South Harbour A, and 2.7m in the South Harbour B. Such increase in the sea level would have meant that both harbours in Antiquity were dry.[40]

More recent research for the Aegean basin is closer to Negris' calculations, if not lower: "The main phase of rapid sea-level rise in the Central Aegean region ended prior to 5500 BP with the sea level being 4–5 m below its present stand.

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[35] Faraklas 1980, 79, fig. 58 (Εμπορικό λιμανι).
[36] Knoblauch (1972, 57–8) with reference to Milbanks (1925, pl. IV 6,7, V 6,6) and Welter 1938, 484.
[37] Knoblauch 1972, 60–61: Assumed erosion (carry away) of the crowning of the breaker due to wave action ~ 1m. To be effective breaker must have risen above water level ~0.5m. At the time of construction water level was 4m lower than now. Now the breaker is 0.45m under water. The structure must have towered ca. 3.8m above water at the time of construction.
[38] Knoblauch 1972, 63.
[39] Philippson 1959, 26, 48, 49, 53 ff.
[40] Knoblauch 1972, 55.

Subsequently, the sea level continued to rise slowly at a rate of 0.9 mm/a towards its present level, but without ever exceeding it. Due to the tectonic stability of the Attico–Cycladic Massif (central Aegean Sea), the rise of sea level within historical times is attributed to eustatic factors, with thermal expansion being the dominant one, followed by residual melting of glaciers and ice-caps."[41] According to this calculation, the sea level rises ca. 0.45m over 500 years, and if the sea level ca. 3500 BCE was 4.5–5m lower than now, then by 500 BCE it would have been 1.8–2.3m lower than now. Another study, for the Western Mediterannean, based on a different scientific method, suggests an even lower sea level rise of 1.5m since the Bronze Age.[42]

At the end of his study, Knoblauch acknowledges that his calculations based on the linear sea-level rise would give an unrealistic date of 1880 BCE to the breakwater of the North Harbour. He therefore reverts to historical considerations of probability and opts for the date of the 7th/6th century BCE as the date for the breakwater.[43] Other historians, as well, rely on the evaluation of historical context and probability. Welter dated both south harbours prior to the outbreak of the Persian wars. Lehmann-Hartleben, on the contrary, dated the protective constructions in the North Harbour to the Archaic period, and thought that that harbour, along with South Harbour A were the only operational harbours in the time of Demosthenes, while South Harbour B was built in the time of Julia Domna.[44]

One other historical consideration should be added to the picture, namely that, if not in the time of Lampis, then by the time of Attalos I, Aigina should have restored its naval facilities (harbours, shipsheds) once again, as it was apparently able to accommodate the wintering of the Roman (under the command of P. Sulpicius) and Pergamene fleets in 208/7 BCE, their combined forces numbering sixty vessels, as reported by Livy (27.33; 28.5; 28.7). South Harbour A alone could not have accommodated the whole contingent, which requires us to speculate that either South Harbour B, the North Harbour, or else some other harbour on Aigina, were also capable of housing military vessels.

A final observation is due with respect to the historical context for the use of the North Harbour. In 7.6.11, I have argued that the use of the external northern wall of the Archaic Building located below the north side of the Kolonna hill, for display of inscriptions from the Hellenistic to the Roman periods, depends entirely on the public visibility of the structure and on the assumption of frequent traffic along its northern wall. Since that building was built outside, i.e. north of the wall surrounding the ritual complex atop of Kolonna, but was nonetheless still able to afford high visibility in the Hellenistic and Roman periods, it must be

[41] Poulos et al. 2009, 10.

[42] Morhange et al. 2001, 319: "In the ancient harbor of Marseilles, marine fauna fixed upon archaeological structures as well as bio-sedimentary units document a 1.5 m steady rise in relative sea level during the past 5000 years, followed by a near stable level at present datum from about 1500 years AD to the last century."

[43] Knoblauch 1972, 83–85.

[44] Lehmann-Hartleben 1923, 52, 65, 92, 165.

assumed that it lay along a busy road, which on this side of Kolonna could only have been a road to and from the North Harbour. A reasonable hypothesis would be that the North Harbour was still in use in that period.

Harbours, Anchorages, and Bays Outside of Aigina-Town

On the east coast of Aigina, the Bay of Ag. Marina and the Bay of Portes would have been used in antiquity, certainly as commercial, if not naval harbours. Extensive ancient remains on the coast off the Bay of Ag. Marina are indicated on the maps of Lampadarios and Thiersch, and reported by Faraklas.[45]

Significant remains of a prehistoric settlement (17th–12th century BCE) on a steep hillside at the site of Lazarides,[46] surrounded by rugged mountainous terrain on all sides, indicate that the Bay of Portes, which lies just below to the southeast, would have been that community's main communication route and has to be presumed to have been a viable harbour, at least for fishing and cargo vessels, as far back as the MH period.

The coastal area of Nisida and Vagia, in the northeast of Aigina, and the bay of Souvala in the center of the north coast, and much of the west end of the north coast abound in evidence of habitation, as well as of quarrying activities. The products of the latter in particular would have been shipped by sea to their final destinations, be they on or off the island. Thus, we should expect that small cargo vessels and fishing boats would have had no problem anchoring in these locations.

On the west coast, besides Aigina-town, the Bay of Profitis Elias, in the southwest, could have offered suitable anchorage, and some mountain tracks leading in a straight line from the bay up the slope to the hill of Raikou, a production site of andesite millstones, suggests that it may have been a route by means of which the large heavy millstones were rolled or dragged down to the nearest coast for shipment to the Peloponnese and elsewhere. The quarrying of andesite and production of millstones on this site, as well as their shipment from the Profitis Elias bay might well go back to antiquity.

The Bay of Perdika on the southwest tip of Aigina would have been suitable for fishing boats, and the same can be suggested for the Bay of Klima and the Bay of Kepoi on the south coast.[47] Not particularly deep, they nonetheless offer protection from winds and high waves, and the evidence of ancient habitation in the immediate vicinity supports the notion of the bays' usability in all three locations.[48]

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45 Faraklas 1980, 69 (catalogue sites 65, 66, 67).

46 *AR* 54:11–12.

47 Contra: Knoblauch 1972, 51–52: keine Schutzmöglichkeiten.

48 Perdika: Faraklas 1980, 57 (catalogue sites 40 and 41); Ag. Triada above Klima (Polinskaya 2009, 247–248); cape Pyrgos east of the Klima bay (Thiersch, Lampadarios, and Faraklas 1980, 58, catalogue site 44); Pano Vodi (Faraklas 1980, 58, catalogue site 80).

Fresh Water Supply in Ancient Aigina

A Note: A comprehensive study of ancient water supply on Aigina is well overdue: the archaeological data are extensive and awaiting a dedicated person to conduct the needed research.

The interpretation of several Aiginetan cults concerns the issue of fresh water supply, threat of drought and (ir)regularity of rainfall. It therefore seems useful to offer a sketch of ancient fresh water supply on Aigina in order to provide a context for the understanding of that religious data.

Today, and probably in classical antiquity, Aigina is one of the driest islands in the Aegean. The main sources of fresh water in antiquity were ground water and rainwater. Aiginetans used a variety of natural and artificial water-collecting installations to make the optimal use of rainfall and ground water.

Aqueduct I (of unknown date)[49] (see Map 1)
In the study of Faraklas, we find a detailed topographic description of its course: starting in the basin of Kondos going northwest through the Vouno Dendrou and Dragonera arriving at the area of Ag. Kyriaki where it turns due west and follows in a straight line through the area of Ag. Ioannis and then through the middle of the Hill of Windmills (Anemomyloi) and Vigla into the city. Its overall length probably exceeds 5.5km.[50] The aqueduct is indicated on the maps of Lampadarios and Thiersch.

This aqueduct was first identified and described by Gräber:[51]

> an underground tunnel was directed inland until it reached a river-bed—almost always dry and filled only by a strong winter rain—which it followed 8m below the surface, into the mountains, where, in the centre of the island,

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[49] Faraklas 1980, 53 gives the date of ca. 500 BCE.

[50] Faraklas 1980, 53. It is not clear whether his description is based on autopsy, or relies on earlier maps.

[51] Gräber 1905a, 557: "Nach demselben Grundsatz wie in Megara war auf der Insel Ägina eine unterirdische Wasserleitung gebaut worden, um die Hauptstadt Ägina, die in alter Zeit und sogar noch zur Zeit der Perser kriege bedeutender als Athen war, mit Wasser zu versorgen. Mehrere Kilometer weit wurde ein unterirdischer Stollen ins Land hineingeführt, bis er ein Flußbett erreichte, folgte diesem—das fast immer trocken ist und nur bei starkem Winterregen Wasser führt—8 m tief unter der Solde, bis hinauf ins Gebirge, wo sich inmitten der Insel ein großer von Bergen umgebener Gebirgskessel befindet. Das in diesem Gebirgskessel sich ansammelnde Wasser sucht der Stollen auf; er ist aber so tief unter die Oberfläche geführt (etwa 15 bis 20 m), daß er imstande ist, ein Quelltal anzustechen, welches Wasser nach der anderen Seite der Insel ableitet und die Quellen dieses Tales noch mit in die Leitung aufzunehmen." Gräber (1905b, 60) also gives a short summary of the same information in another publication for the same year: "Ähnlich wie in Megara liegen die Verhältnisse auch in Aegina, dessen antike unterirdische Wasserleitung vor kurzem ausgeräumt und *von mir untersucht worden ist*. Der Hauptstollen läuft von der Stadt nach Osten unter dem langsam ansteigenden Plateau entlang und zieht sich dann eine lange Strecke unter einem Flusslaufe hin, etwa 8m unter dessen Sohle. Er sammelt das Wasser des zerklüfteten Kalksteines, der über ihm liegt, und nimmt wahrscheinlich auch noch das Wasser einiger Querstollen auf, deren Ursprung noch unbekannt ist."

> there is a large basin surrounded by mountains. The water that collects in this mountain basin then looks for [drainage] outlets; but, the aqueduct is so deep under the surface (15 to 20m) that it pierces the water basin from below, draining the water to the other side of the island, and drawing the water-sources of the valley into the aqueduct.

Gräber does not inform us about the methods he used in investigating the aqueduct, nor do we learn from him about any related over-ground structures. Faraklas speculates that over-ground remains of walls in the area of Ag. Ioannis (Catalogue site 22) belong to this aqueduct.[52] In the city, Knoblauch suggests, the aqueduct would have followed natural topography (an erosion channel stretching down to the South Harbours A and B).[53]

Aqueduct II (Classical?)
Proposed on the basis of archaeological remains in the area of Ag. Asomatoi by Faraklas (Catalogue site 25), who traced it for a length of ca. 600m.[54] A section of this, or of Aqueduct I, has been identified within Aigina-town at the intersection of Mitropoleos (no. 11) and Solomou streets (property of P. Chelioti).[55]

Seasonal rainwater ponds (ομβροδεκτης)
These are known from several places on the island, significantly in the areas with attested ancient occupation, although it is impossible to tell whether they would have been definitely in use at any given time in the past.

The whole area of Bourdechti (the site of an ancient tower and cisterns, probably a farmstead), a small upland plateau surrounded by mountains, located roughly in the center of the island between Pakhia Rakhi and Lazarides, is marked on the map of Lampadarios as ομβροδεκτης, and the name Bourdechti is a corruption of that noun.

Apostolos Kapsalis lists these features at Lazarides (where it may have been in use since prehistoric times), Psachni (in the mountainous center of the island, southeast of Kondos), and Kamara near cape Peninda in the middle of the east coast.[56] It should be noted that such rainwater ponds occur in the mountainous central and east-central parts of the island geologically made of volcanic rock.

Overground cisterns (what in modern Greek would be called δεξαμενη)
Ancient cisterns are essentially small rainwater ponds (their formation is perhaps similar to the *ombrodektes*) that are architecturally enhanced by courses of masonry and/or additions of well-heads for more effective water collection and

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[52] Faraklas 1980, 49.
[53] Knoblauch 1972, 54, p. 14.
[54] Faraklas 1980, 50 (catalogue site 25) and 33 (here he says that the overall length of this aqueduct would have been 2.5km, and it would have approached from the south and supplied that part of the city).
[55] ΑΔ 40 Β′ Χρονικα 52.
[56] Kapsalis 2006, 27.

retrieval. Modern dexamenes, by contrast, are built from stone or cement and usually roofed, while all ancient ones mentioned below are not.

Several have been identified on the Oros: two at the Lower Sanctuary of Zeus Hellelanios, on the north slope of the Oros;[57] one large one at the site of Sphendouri (east of the church of Ag. Ioannis above the village) on the south slope of the Oros, next to a prehistoric settlement; three small ones at the site of Ag. Triada, in a mountain saddle south of Sphendouri and east of the Klima Bay. This site may have been a late Classical (if not earlier) farmstead. Two overground cisterns are located at the site of an ancient farmstead at Bourdekhti.[58]

Ancient underground cisterns and water channels

Underground chambers carved in bedrock and plastered to be watertight were common in the northern part of Aigina, where the natural geology is limestone. Remains of numerous examples have been identified inside ancient city walls,[59] but also outside,[60] in areas associated with workshops or dwellings.[61] An underground cistern is attested at the sanctuary of Aphaia: it collected rainwater from

[57] Goette 2001, 348.

[58] Goette 2001, 340.

[59] *AR* 51:11; e.g., Classical cistern 9.5m deep with two channels leading into it was found at the intersection of Kyvernou and Thomaides street, and "a large system of water mains associated with 5th and 4th century pottery," at the intersection of Pheidiou and Peppa streets (*AR* (1986), 18 and ΑΔ 33: Chr 53? A complex of cisterns in the Neoptolemos street, with pottery dating from the Geometric to Early Christian times (ΑΔ 27 Β′ Χρονικα 180–1). A domestic complex in long-term use (at the intersection of Ellaniou Dios and I. Katsa streets) has a well, 5m deep (with Geometric pottery) and a Roman circular cistern supplied by a conduit that could be traced for at least 9.7m (ΑΔ 56–59 Β′ Χρονικα 487–8). Another complex of a cistern, wells, and underground channels is located nearby with the previous example, at the property of Peppa and M. Klonou (ΑΔ 56–59 Β′ Χρονικα 489–490). Yet another complex, consisting of a bell-shaped cistern with four channels leading out/into it, and dating to the 4th century BCE, was found at the eastern end of the city (possibly inside city walls) at the intersection of Nosokomeiou and Ag. Dionisiou streets: ΑΔ 37 Β′ Χρονικα 44–45. In fact, although all the finds listed above (in this footnote) were made as a result of rescue excavations conducted in conjunction with modern building activities, and therefore only partially representing the overall archaeological record of the area, they nonetheless paint a picture of very dense habitation and well developed water supply, whereby (I would venture a guess) every household would have aimed to have its own access to fresh water. Almost every domestic structure that had been discovered and explored within the ancient city walls had been accompanied either by a cistern, underground water conduits, wells, or a combination of the above.

[60] At Trigona, the area that may have been just outside or on the border of the ancient city northeast of Kolonna, north of the intersection of the Leousis Rd and Strategou Petriti: a Classical cistern with three compartments (*AR* (1985), 12). On the Leousis Rd., property of Katsouli: wells and cistern (ΑΔ 36 Β′ Χρονικα 68).

[61] A well with a conduit that may have been a drain, was found in association with a probable metal workshop southeast of Aigina town, on the property of Var. Matsouka, Phaneromeni Rd (ΑΔ 56–59 Β′ Χρονικα 490). A conduit, well, and cistern: at the property of Spari, Agiou Nectariou Rd. (ΑΔ 55 Β′ Χρονικα 136).

the temple's roof by means of a drain.[62] Cisterns were often multi-chambered, accompanied by tunnels that served as water conduits. For example, a multi-chamber cistern of pre-Hellenistic date, 5.3m high, sealed on the inside with hydraulic plaster, has been excavated on Kolonna.[63] To the east of North Habour A, at the junction of Strategou Petriti and Patriarchou Gregoriou streets, a Classical cistern carved in the bedrock had a mouth articulated with worked stones. A nearby well carved in the bedrock was filled with 7th century pottery.[64]

Underground water channels even if sometimes found unconnected to cisterns in most cases are to be understood as elements of water supply systems, some of which may have been highly localized and others much more extensive.[65] Although most water conduits in ancient times seem to have been cut directly in limestone bedrock, ceramic pipes are also attested.[66]

Natural Springs (πηγγη)

Kapsalis reports, in his study of sustainable development for Aigina, that several springs with running water still exist on Aigina today, but their water is not considered safe to drink.[67] Springs as geological features can last a very long time, and the geomorphology of Aigina has not changed in any significant way since the prehistoric times. The modern morphological map of the island indicates natural springs in the areas of Pachea Rachi and in the rema of Ag. Georgios (at the west foot of Mt. Madarovouno, and just north of the motorway from Aigina-town to Palaiokhora), this is the same rema along which ran the ancient aqueduct (see above).

Fountains (κρηνη)

Apart from natural springs and various types of water-collecting containers (ground-level seasonal rainwater ponds and open-air cisterns), wells and fountains were the main means of accessing water supply. These could tap either into the natural ground water tables or into underground man-made cisterns. One fountain/well has been identified by archaeologists on the north side of Kolonna,[68] but other fountains will no doubt have been present throughout the city, or at least in its public areas.

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[62] Furtwängler 1906, 87. Here, in the case of the Aphaia cistern, we are also fortunate to have a well preserved drain, carved into the bedrock and plastered, running along the perimeter of the roof and down into the cistern, thus illustrating how rainwater would have been channeled and collected. Goette 2001, 341.

[63] *AR* 49 (2003), 14.

[64] ΑΔ 53 Β′ Χρονικα 92.

[65] ΑΔ 36 Β′ Χρονικα 65–71 and *AR* 36, 10. ΑΔ 56–59 Β′ Χρονικα 487: a well (0.8m in diameter), cut into the limestone bedrock 3.3m deep had an opening in its east wall at a depth of 1.4m leading into a tunnel (1.85m high, 10.2m long, and 0.75–1.36m wide) that ended in three semicircular cavities.

[66] ΑΔ 40 Β′ Χρονικα 53 (Mitropoleos st., property of G. Tzitzi). The date of the structure is not known, but the small diameter (0.48m) and the position between two walls perhaps indicates a latrine, rather then a cistern.

[67] Kapsalis 2006, 26.

[68] Hoffelner 1999, 179, drawing of stones—pl. 76; reconstruction drawing—pl. 77.

Wells (φρεατα, πηγαδια)

Numerous ancient wells have been identified inside ancient city walls,[69] and outside,[70] in the countryside, which is only to be expected. This is still the case in modern Aigina. Many ancient wells are found inside domestic structures.[71]

Other Features of Social Topography

Such other features of human landscape as villages, cemeteries, watchtowers, farmsteads, workshops, roads, quarries and clay-beds, the latter two as sources of raw material for local manufacture, were necessarily part and parcel of everyday life on Aigina in antiquity. To know their locations and chronological use would be of great value for the reconstruction of the Aiginetan socio-religious mesocosm. Unfortunately, there is no up-to-date published resource that could provide this kind of data, and so such a contextualizing exercise will have to be reserved for the future, when an extensive archaeological survey of Aigina could be conducted.

Fragmentary information on all of the above (villages, cemeteries, watchtowers, farmsteads, etc.) does exist and can be assembled, but in its incomplete state it could not provide a decisively illuminating context for the current study, and is for this reason not included in this Appendix. It may well be that after a proper survey of the island yields adequate documentation of relevant features, an updated edition of this monograph (or at least of chapters 7, 8, and 9) would be made possible and indeed called for.

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[69] By late 1980s, excavators had identified more than 20 Archaic wells in the area of Kolonna: *AR* (1988), 15.

[70] In the area of Kambos Mylon (property of K. Tzoni): ΑΔ 49 Β′ Χρονικα 84; 45 Β′ Χρονικα 80.

[71] *AR* 51 (2005), 11; ΑΔ 56–59 Β′ Χρονικα 486 (Strategou Petriti road, property of M. Zografos).