

Local Scripts in Archaic Macedonia

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Abstract

In the past few decades a significant number of inscriptions and graffiti dating to the Archaic and Classical period have emerged in Macedonia. Most come from coastal cities, but a considerable number has been found at inland sites. Although the number of the inscriptions is rather small, they feature characteristic letterforms that give a good picture of the adoption and dissemination of alphabetic script in Macedonia, characterized by both division and mixture. The autonomous *ethnê* and kingdoms of Upper Macedonia seem to have been making their own political and trade associations, through which a number of distinct letterforms from several local Greek alphabets were introduced into Macedonia, while in the coastal cities different Greek alphabets co-existed and intermingled with each other pointing to the existence of multicultural communities. Letter forms are inventoried and distribution maps are produced in order to illustrate the diffusion of local Greek scripts in Macedonia.

Introduction

In *The Local Scripts of Archaic Greece* (1961) Lilian H. Jeffery reserved a small chapter at the end for “The Northern Colonial Area”, in which the section on “Macedonia and Southern Thrace” takes up somewhat more than a page (pp. 364–365). The epigraphic material from these regions comprised almost entirely coinage (nos. 16–21, 23–28, and 30–32), and most of these concerned Southern Thrace. Although having only a very small sample at her disposal,¹ Jeffery was quick to remark that a number of different alphabets made their appearance throughout

¹ Inscriptions of the Archaic and Classical period were absent even from the supplement to Jeffery’s catalogue by A. Johnston in 1990 (sole exception the ring from Sindos (no. 27); LSAG² p. 479, no. F).

Macedonia and, furthermore, that “judging by the coins of Alexandros I, we may infer that it was the Ionic which, in the first half of the fifth century, became the official Macedonian alphabet.”²

Given the scarcity of evidence and the macroscopic focus on the entire area, Jeffery’s assessment was remarkably accurate. Substantiated by a significant epigraphic corpus that keeps building up since the 1970s the picture that now emerges is one of diversity of scripts in use around Northern Greece, and even within Macedonia, in the period down to the early fourth century BCE, when the Ionic alphabet prevailed.³

Moreover, a significant number of the inscriptions comprising this newly acquired corpus actually come from inland Macedonian settlements beyond the coastal, colonial cities, in a hinterland which previously seemed illiterate. Although the majority of the inscriptions is found on portable objects and it is virtually impossible to ascertain that the act of inscribing was performed locally and by a local person, wherever they count more than one or two, they exhibit a certain degree of homogeneity within each state or geographical region and they corroborate with each other in betraying a single source for the alphabet in each one of them, but not for Macedonia as a whole. This is important not only for the extent of the diffusion of the alphabetic script in the north, but also for the political geography of Macedonia in the Archaic and Classical period, on which our knowledge, thus far coming only from literary sources, is extremely limited.

Macedonia is a rather misused term in modern historiography carrying both a geographical and a political denotation, i.e. referring both to the region between (W–E) the

² Jeffery 1961:364.

³ Officially adopted in Athens by the Decree of Eukleides in 403/2 BCE (FGrH 115 [Theopompos] F155; D’Angour 1999) it soon became the norm throughout the Greek world.

Pindos Mt. Range and Mt. Dysoron and between (S–N) Mt. Olympus and Mt. Voras, excluding the entire Chalkidike peninsula (Figure 1), and the kingdom of *Makedonia*.⁴ Macedonia is essentially the state of the *Makedones*, a kingdom that expanded through the Archaic and Classical period (supplanting the geographical term ‘Thrace’ in the wider area of the Thermaic Gulf only by the fourth century BCE), and thus any attempt to describe any specific geographical area by this term is bound to be futile. Moreover, as is clear in the ancient sources, up to the mid-fourth century BCE, i.e. the reign of Philip II, it was not a single state; there were several kingdoms, each corresponding to an *ethnos*,⁵ which were not always on good terms with each other. Some of these *ethnê*, namely the Elimiotai, the Orestians, the Lyncestians, the Pelagones, and the already annexed to the Macedonian kingdom by the fifth century BCE Eordians, inhabited Upper Macedonia (Ἄνω Μακεδονία).⁶ Whether or not the people of all those *ethnê* actually identified themselves as *Makedones* is impossible to determine on the available evidence.⁷ The surviving relevant sources are entirely Athenian, and thus it is

⁴ See Hammond 1995.

⁵ See Hammond 2000.

⁶ Herodotos 7.173.4: ἐσβολὴν ἐς Θεσσαλοὺς κατὰ τὴν ἄνω Μακεδονίην διὰ Περραιβῶν κατὰ Γόννον πόλιν, τῇ περ δὴ καὶ ἐσέβαλε ἡ στρατιὴ ἢ Ξέρξεω, and 8.137.1: ἐκ δὲ Ἰλλυριῶν ὑπερβαλόντες ἐς τὴν ἄνω Μακεδονίην ἀπίκοντο ἐς Λεβαίην πόλιν; Thucydides 2.99.2: καὶ Λυγκησταὶ καὶ Ἐλιμιῶται καὶ ἄλλα ἔθνη ἐπάνωθεν; Arrian *Anabasis* 1.2.5: τοὺς ἐκ τῆς ἄνωθεν Μακεδονίας ἰπέας; cf. Strabo 7.7.8. Generally on Upper Macedonia and the politics of ethnic distinction (ancient and modern) see Xydopoulos 2012; on the names and the territory of each of these regions see Hatzinikolaou 2009 (pp. 1–4: Elimeia; pp. 4–9: Eordia; pp. 9–12: Orestis; pp. 12–14: Lyncestis).

⁷ Prior to the Late Classical period, when all the previously autonomous kingdoms had been annexed to Lower Macedonia under Philip II (360/59–336 BCE), only the Lyncestians are also called *Makedones* (Thucydides 4.83.1: Περδικκας δὲ Βρασίδαν καὶ τὴν στρατιάν εὐθύς λαβῶν μετὰ τῆς ἑαυτοῦ δυνάμεως στρατεύει ἐπὶ Ἀρραβαῖον τὸν Βρομεροῦ Λυγκηστῶν Μακεδόνων βασιλέα ὄμορον ὄντα, διαφορᾶς τε αὐτῷ οὔσης καὶ βουλόμενος καταστρέψασθαι), whereas the Orestians are Molossians in Hekataios (FGrH 1 F107 = Ὀρέσται, Μολοσσικὸν ἔθνος). If Strabo, albeit late, is to be taken into account, these *ethnê* were not properly Macedonian (Strabo 7.7.8: Ἠπειρῶται δ' εἰσὶ καὶ Ἀμφίλοχοι καὶ οἱ ὑπερκείμενοι καὶ συνάπτοντες τοῖς Ἰλλυρικοῖς ὄρεσι, τραχεῖαν οἰκοῦντες χώραν, Μολοττοὶ τε καὶ Ἀθαμᾶνες καὶ Αἰθίκες καὶ Τυμφαῖοι καὶ Ὀρέσται Παρωραῖοί τε καὶ Ἀτιντᾶνες, οἱ μὲν

debatable whether this is the actual state of mind regarding ethnicity in the region or just a collective term used from the Athenian point of view.⁸ In any case, there were separate kingdoms in Upper Macedonia, at times allied or subjected,⁹ but most of the time autonomous and even hostile to the kingdom of Lower Macedonia (κάτω Μακεδονία) or “Macedonia by the sea” (παρὰ θάλασσαν Μακεδονία),¹⁰ with their own dynastic families,¹¹ and their own external relations.¹²

πλησιάζοντες τοῖς Μακεδόσι μᾶλλον οἱ δὲ τῷ Ἴονίῳ κόλπῳ. ... πρὸς δὲ τούτοις Λυγκησταί τε καὶ ἡ Δευρίοπος καὶ ἡ τρίπολις Πελαγονία καὶ Ἑορδοὶ καὶ Ἑλίμεια καὶ Ἐράτυρα. ... καὶ δὴ καὶ τὰ περὶ Λύγκων καὶ Πελαγονίαν καὶ Ὀρεσιάδα καὶ Ἑλίμειαν τὴν ἄνω Μακεδονίαν ἐκάλουον, οἱ δ' ὕστερον καὶ ἐλευθέραν· ἔνιοι δὲ καὶ σύμπασαν τὴν μέχρι Κορκύρας Μακεδονίαν προσαγορεύουσιν, αἰτιολογούντες ἅμα ὅτι καὶ κουρᾶ καὶ διαλέκτῳ καὶ χλαμύδι καὶ ἄλλοις τοιοῦτοις χρῶνται παραπλησίως· ἔνιοι δὲ καὶ δίγλωττοὶ εἰσι; Strabo 9.5.11: διὰ γὰρ τὴν ἐπιφάνειάν τε καὶ τὴν ἐπικράτειαν τῶν Θετταλῶν καὶ τῶν Μακεδόνων οἱ πλησιάζοντες αὐτοῖς μάλιστα τῶν Ἡπειρωτῶν, οἱ μὲν ἐκόντες οἱ δ' ἄκοντες, μέρη καθίσταντο Θετταλῶν ἢ Μακεδόνων, καθάπερ Ἀθαμᾶνες καὶ Αἴθικες καὶ Τάλαρες Θετταλῶν, Ὀρέσται δὲ καὶ Πελαγόνες καὶ Ἑλιμιῶται Μακεδόνων).

⁸ Thucydides in 2.99 after a short account of the Macedonian expansion by annexation of or by domination over the regions of other *ethnê*, which in no case are explicitly or implicitly tagged as *Makedones*, states that “τὸ δὲ ξύμπαν Μακεδονία καλεῖται, καὶ Περδίκκας Ἀλεξάνδρου βασιλεὺς αὐτῶν”. Cf. the term *Yauna*, i.e. Ionians, that the Achaemenids used for all Greeks, east and west of the Aegean, including most likely the Macedonians as *Yaunā takabarā* (Rollinger 2006).

⁹ Thucydides 2.99.2: τῶν γὰρ Μακεδόνων εἰσὶ καὶ Λυγκησταί καὶ Ἑλιμιῶται καὶ ἄλλα ἔθνη ἐπάνωθεν, ἃ ξύμμαχα μὲν ἐστὶ τούτοις καὶ ὑπήκοα, βασιλείας δ' ἔχει καθ' αὐτά; Demosthenes *Philippic 1* 4: καὶ πολλὰ τῶν μετ' ἐκείνου [Philip II] νῦν ὄντων ἔθνῶν αὐτονομούμενα κάλεούθηρ' ὑπήρχε.

¹⁰ Herodotos 7.173.1: ἀπίκετο ἐς τὰ Τέμπεα ἐς τὴν ἐσβολὴν ἢ περ ἀπὸ Μακεδονίης τῆς κάτω ἐς Θεσσαλίην φέρει παρὰ ποταμὸν Πηνειόν, μεταξὺ δὲ Ὀλύμπου τε ὄρεος ἔοντα καὶ τῆς Ὀσσης; Thucydides 2.99.1: ξυνηθορίζοντο οὖν ἐν τῇ Δοβήρῳ καὶ παρεσκευάζοντο, ὅπως κατὰ κορυφὴν ἐσβαλοῦσιν ἐς τὴν κάτω Μακεδονίαν, ἧς ὁ Περδίκκας ἦρχεν, and 2.99.3: τὴν δὲ παρὰ θάλασσαν νῦν Μακεδονίαν Ἀλέξανδρος ὁ Περδίκκου πατήρ καὶ οἱ πρόγονοι αὐτοῦ, Τημενίδαι.

¹¹ In the late fifth century BCE, Lyncos was ruled by Arrhabaios (Thucydides 4.79 and 4.83), Orestis by Antiochos (Thucydides 2.80.6), Elimeia by Derdas (Thucydides 1.57.3 and 1.59.2); see also IG I³ 89, a treaty of alliance between the Athenians and Perdikkas II (line 9: χσυ]μμ[αχία Π]ερδίκκαι καὶ τοῖς χ[συμμάχοις), most probably of 423 BCE (on the debate over the date see Borza 1990:153–154n56 and p. 295), which also involves Ἀρ[ραβα]ίοι καὶ τοῖς χσυμ[μάχοις (line 10) as well as τὸς βασιλέας τὸς [μ]ετὰ Περδ[ίκκο (line 35), who are obviously those in line 69: [...7... Δέ]ρδας, βασιλ[εὺς Ἀ]ντίοχος, Δε[.....16..... βασι]λεὺς42.....] (due to the fragmentary state of the text, it is unclear whether Arrhabaios was considered among those kings, but as lines 57–58 indicate

Lower Macedonia corresponds to the kingdom of the Argead *Makedones*, ruled by a dynastic family claiming to be descended from the Temenids of Peloponnesian Argos.¹³ The Argeads gradually expanded their dominion by conquering and displacing other *ethnê* around the Thermaic Gulf, until in the late fifth century BCE the kingdom of Lower Macedonia comprised the regions of Pieria, Emathia, Eordia, Almopia, Bottia, Amphaxitis, Anthemous, Mygdonia, Krestonia, and part of Bisaltia (Figure 1),¹⁴ and it also controlled cities on the coast, which were either former colonial settlements and *emporion* or colonies still.¹⁵ In any case, Lower Macedonia was inhabited not only by Macedonians and Thracians, but also by a resident Greek population.¹⁶

probably not). Another Derdas was king of Elimeia in the early fourth century BCE (Xenophon *Hellenika* 5.2.38; Liampi 1998). In the mid-fourth century BCE a certain Π[...6...], king of the Pelagones, is attested in IG II² 190 (ante 353/2 BCE), by which he was made *proxenos* and *euergetes* of the Athenians; he is most likely the successor of Menelaos Pelagon, who was made an *euergetes* by IG II² 110 (363/2 BCE; no title, e.g. *basileus*, mentioned).

¹² Derdas, king of the Elimiotai, was allied with the Athenians and the pretender to the Macedonian throne Philip, brother of Perdikkas II, in 433/2 BCE (Thucydides 1.57.3 and 1.59.2); Antiochos, king of the Orestians, joined a military campaign against the Akarnanians in 429 BCE independently from Perdikkas (Thucydides 2.80.6–7); Arrhabaios, king of the Lyncestians, was allied with the Illyrians against Perdikkas II in 423 BCE (Thucydides 4.125.1); Menelaos, most likely king of the Pelagones, was allied to the Athenians during one of the generalships of Timotheos in the late 360s (IG II² 110).

¹³ Herodotos 5.22; see further, more recently, Müller 2016.

¹⁴ Thucydides 2.99.

¹⁵ E.g. Methone, an Eretrian colony (Tzifopoulos 2012); Therme, a Greek-Thracian settlement (FGrH 1 [Hekataios] F146: ἐν δ' αὐτῷ [Thermaic Gulf] Θέρμη πόλις Ἑλλήνων Θρηίκων); Sindos, an *emporion* (Gimatidis 2010).

¹⁶ This mixture of ethnic backgrounds is made obvious by a series of curse tablets from Pydna, on which along with Greek, some of which characteristic of Macedonia, Thracian and possibly Epirotic and Thessalian names are also included (Curbera and Jordan 2002–2003). The resident Greek population can be inferred by gravestones, such as no. 40, but it is also explicitly stated in Thucydides 4.124.1: Περδίκκας ... ἐκράτει Μακεδόνων τὴν δύναμιν καὶ τῶν ἐνοικούντων Ἑλλήνων ὀπίτας.

Not unexpectedly, therefore, the epigraphic material from Macedonia, especially the early material, is characterized by irregularity and diversity regarding the script. Letterforms appear throughout the entire region of Northern Greece mixed, and there are extremely few to none official or public stone inscriptions to attest for an established or standardized local script.¹⁷ Although the vast majority of the inscriptions consist of short texts, often of one or two words, (almost) all scripts attested can be identified as local scripts of other regions, obviously imported to the north. It is worth, then, to identify, locate, and localize distinctive letterforms, and to examine their distribution seeking patterns that would attest to the adoption, use, and perhaps even development of particular local scripts in each region,¹⁸ as well as inter-regionally, in order to trace communications, spheres of influence, political relations, and trade links that would confirm, supplement or disprove the literary sources and our historical knowledge on and notions of Macedonia and the Macedonians in the Archaic and Classical period.

Material and Method

To this end, a corpus of inscriptions featuring characteristic letterforms has been compiled (see Table 1). The catalogue includes inscriptions of all techniques (engraved inscriptions, as well as graffiti and dipinti), on all materials (stone, clay, metal). Inevitably, only published epigraphic material is considered. Note that the dates given are those of the *editio princeps*, unless a more appropriate dating has been suggested by a subsequent publication that is also

¹⁷ One possible public inscription is no. 39.

¹⁸ This is a given fact for the city-states of Southern Greece, which made every effort to distinguish themselves from any other, and especially their neighbors, developing (among other cultural elements) their own distinctive local script, usually adapting a regional common, but in some cases even creating new letterforms, aptly characterized as ‘freak’ forms by Jeffery (LSAG², e.g. the Korinthian ε1-2); on the political reasons and motivation behind this phenomenon see Luraghi 2010.

referenced, or it is otherwise indicated. For the purposes of the present study, non-Greek scripts and objects with inscriptions that were certainly or most likely inscribed before they reached Macedonia are not taken into consideration.¹⁹

Case Studies

The number of archaic inscriptions, considering the extent of the geographical area under study, is rather small and the number of those featuring characteristic letterforms is even smaller. No site has produced more than ten (10) such inscriptions, while some regions are represented by a single one. Furthermore, in a total of fifty-one (51) inscriptions only eighteen (18) are on stone and they are among the latest examples, dating from the mid-5th century onwards. What follows below is an examination of the material by letterforms. For further information and an inventory of letterforms by inscription the reader may consult Table 1. In addition, distribution maps are provided for each one of the letters examined (Figures 2–15).

Letter *alpha*

The letter *alpha* had a rather stable form throughout the Greek world and beyond, in the other Aegean alphabets adapting the Phoenician script,²⁰ which only allowed stylistic variations on the degree of tilt and the notation of the cross-bar. This was usually slanted in the Archaic period stemming from the middle part of one side and reaching the bottom end of the other (LSAG² p. 23: α3–8), usually, but not necessarily, slanting towards the orientation of the script. An uncommon, but not rare, variation was rendering the inside bar parallel, or nearly parallel, to the latter side of the letter (Λ, LSAG² p. 23: α12). This particular letterform is attested twice

¹⁹ This excludes amphora stamps and dipinti in vase iconography, as well as potter's or painter's signatures. Also excluded is a stone inscription with an illegible inscription of doubtful date, content and script, that has been identified, although rather tentatively, as a musical text (Adam-Veleni 1999, 1–3 = SEG 49.843).

²⁰ For an overview see Adiego 2004 and 2018.

in the study region: once in Eordia, on a drinking cup with an owner's inscription (no. 23), and once in Trebeništa, north of Lake Lychnitis, on a strigil with an owner's inscription (no. 26). The former region is at the southern part of Macedonia and bordering Thessaly, where this particular form is quite common (LSAG² p. 96: Thessaly α3), but *Machatas* (no. 23) is up to the fourth century BCE a typically and exclusively Macedonian name (LGPN IV). Although the inscription is on a portable object, there is no reason to suppose that the drinking cup, originally an Attic product, reached Eordia already used and inscribed in Thessaly. It is at least as likely as not that *Machatas*, an *Eordos* or *Elimiotes*, bought, used and signed his cup locally. There is no other epigraphic material from this region dating to the Archaic or the Classical period for comparison. The closer in geographical proximity inscriptions of roughly the same date have been found some 27 km south of the findspot of the cup, at Aiane, in the region of Elimeia, where this form of *alpha* is unattested. Still, other letterforms casually identified as Thessalian appear at Aiane: *alpha* with one side vertical and the other convex (ϱ) is a characteristically Central Greek form²¹ that appears on a pithos rim from Aiane (no. 19) together with a *delta* in the form of a trapezoid D, a form widely used in Central Greece; this *delta* reappears on a sherd from Aiane (no. 29); *koppa* (Q), although a common component of many Greek local scripts, occurs at Aiane (no. 24) in a rather uncommon, possibly Northern Thessalian form (see *koppa* below). Evidently, 'Elimeian' letterforms resemble strikingly those of Thessaly and it is not without significance that this is the southernmost Macedonian territory neighboring the region of Perrhaivia, the northern reach of Thessaly, which was dominated by Larissa, the seat of power of the rulers of Thessalian Pelasgiotis. It is, thus, not surprising to find a Thessalian letterform in Eordia on the inland road leading from Thessaly and Elimeia to Lynkos and the Balkans.

²¹ LSAG² Attica α2, Euboeia α3, Boiotia α2, Thessaly α4, Phokis α3, Lokris α3, Aigina α1, The Achaean Colonies α2-3.

Perhaps this was the road that brought the strigil that was found in Trebeništa to the region of Lake Lychnitis. The inscription on the strigil features together with this particular form of *alpha* (λ) the same form of *khi* (ψ) as no. 23. Whether this object should be regarded as a Boiotic import, as Panayotou suggested, or considered as a product of Macedonia (perhaps Elimeia) is an unattainable conclusion.²² It is, however, tenable to trace a connecting link between these inscriptions illustrating the course of the transmission of these particular letterforms.

Letter gamma

The letter *gamma* mostly appears in the usual ‘classical’ form (Γ), except in no. 25 (\langle), which is in Megarian or Korinthian script, and no. 20 (\wedge), which features no other letterforms readily identifiable in order to narrow down the probable provenance of the script. It should be either west or central Ionic,²³ but that means it could also be coming from the Northern Aegean.

Letter delta

The tilted *delta*, which often becomes curved rather than angular at its raised corner, is a common letterform featuring in about half of the archaic local Greek alphabets. It is, thus, impossible to ascribe it to any particular one. However, its geographical distribution in

²² The use of the patronymic adjective instead of a genitive, as on the strigil (Ἀντιμαχεία ἐμί), is characteristic of Thessaly, but Panayotou (1996:n35) correctly remarks that the spelling ἐμί, instead of the Aiolic ἔμμί, unless a mistake, excludes such an origin; her suggestion, however, that the object reached its findspot as loot from Boiotia is quite far-fetched. Both these characteristics appear sporadically in Macedonia (Hatzopoulos 2018:309), and in conjunction with the Thessalian-influenced script of the southern regions of Macedonia, a provenance from Elimeia or Eordia is plausible. Contrarily, Parovič-Pešikan (1988:44–48) suggested a provenance from South Italy or Sicily through Illyria that is also possible.

²³ LSAG² Attica γ 2, Euboia γ 5, Argos γ 3, and the Ionic islands γ 1.

Macedonia and its occurrence with other more distinctive letterforms is quite revealing. It appears in Pieria, at Methone, and in Elimeia, at Aiane.

At Aiane it features in two inscriptions, dated between ca. 525–450 BCE, first in a trapezoid form of D, which is probably due to the difficulty in carving curved lines as exhibited by other letters of the same inscription (no. 19), and then in a variety of angular, curved, and trapezoid forms, evidently random outcomes of an intended curved form due to the rough surface of the sherd and the superficial incision of no. 29. At Methone it features once in the regular curved form (D) in a most likely Aiolic inscription (no. 4), and twice having a horizontal base, a vertical, and a curved slanting stroke (no. 2, no. 8). As shown above in the case of *alpha* (Λ), at least regarding Elimeia, neighboring to Thessaly resulted in receiving letterforms that were probably adopted for use in the local script. In Methone, however, all three inscriptions are dated to the early seventh century BCE at the latest and they may represent foreign scripts, Aiolic (no. 4) and Euboic (no. 2, no. 8).

Delta appears possibly in yet another form, of an arrow pointing up (\uparrow), which features in two commercial graffiti from Sindos (no. 28) and Toumba (no. 37), both dated to the fifth century BCE and both found on the Thermaic Gulf. This is most likely a numeral that denotes number ten (10), and therefore it possibly stands for a $\Delta(-)$ abbreviation, although it is doubtful that it is a letterform at all in both of these cases.²⁴

Letter *epsilon*

In the late 1940s, the discovery in a fourth century BCE grave at Kozane, in Elimeia, of a sixth century BCE silver phiale with a dedicatory inscription to “Athena at Megara” in an alphabet

²⁴ Although this form of *delta* does occur (LSAG² p. 24), this is probably not a letterform. This character belongs to an early numerical system that used a single vertical stroke to denote the unit and added slanting strokes to either side first to the top and then to the bottom in order to note numbers five (5), ten (10), fifty (50), and the hundred (100) (Johnston 1979:29–30, 1982:208–209; Chrisomalis 2010:100).

using the Corinthian and Megarian form of *epsilon* that resembles that of *beta* of all other local alphabets (LSAG² Corinth and Megara ε2: β), caused a fair amount of puzzlement. The inscribed object was immediately thought of as loot from Megara,²⁵ but Hammond and Griffith (1979:96) suggested that it could have had come from Macedonian Megara, a settlement attested in Plutarch²⁶ and by an inscription of the second century CE found in the southeastern reach of Eordia,²⁷ 17 km northwest of Kozane. This possibility should not be hastily rejected on account of the content of the inscription, as there are more works of Peloponnesian metallurgy of the sixth century BCE bearing inscriptions in the Corinthian alphabet found in Lower Macedonia (see *iôta* and *san* below), and it is highly probable that they were actually made by Peloponnesian workshops established in Northern Greece.²⁸ Among those metal objects there is a bronze helmet with an ownership inscription also featuring this form of *epsilon*, of unknown provenance but reportedly from Northern Greece (no. 14); this is assumed to come from the Corinthian colony Potidaia,²⁹ but this is only a wager on probability.

Another silver phiale from Vergina (no. 18), as yet unpublished, reportedly features an *epsilon* with four horizontal bars. This particular form appears randomly in several regions throughout the Greek world and cannot be ascribed to any local script.³⁰

²⁵ Kallipolitis and Feytmans 1951:92–96; BÉ 1951, no. 137; LSAG² p. 135, pl. 22, and 137: no. 2.

²⁶ Plutarch *Pyrrhus* 2.2–3: Μεγάρων ἔχεσθαι χωρίου Μακεδονικοῦ.

²⁷ EAM no. 143.

²⁸ Μουστάκα 2000, who reaches this conclusion by considering “Illyrian” type bronze helmets of the Late Archaic period; see further Vasić (2010:38–39) who supports Moustaka’s argument by pointing out that the distribution of Type II “Illyrian” helmets (late seventh – mid-sixth century BCE) exhibits a concentration in the region between the Thermaic Gulf and Kozane, while those of the subsequent Type IIIA are mostly found at Sindos.

²⁹ Amandry 1971: nr. 3.

³⁰ LSAG² pp. 266–267 and p. 24: Gela, Boiotia, Delphi, Smyrna.

Letter *hêta*

In the Greek alphabet the letter *hêta* was used to note both the aspirate (*h*) and the long vowel /ε:/ (*η*). The latter use was a particularity of Ionia, followed by some of the Aegean Islands and the Doric Hexapolis (LSAG²). It was in Ionia and the Aegean islands that the original ‘closed’ form (Ϟ) was simplified in the ‘open’ form (Η) “by about the mid-sixth century, in Attica shortly after, and in the rest of the Central Greece and the northern Peloponnese by about the end of the sixth century.”³¹ The original form occurs only once, in an early Euboic inscription from Methone, where it is used as the aspirate (no. 2), although it has been also suggested that it could be a form of the Phoenician *samekh* rendering the double consonant *ksi* (see below).³² The ‘open’ form is used for the aspirate twice more: in Elimeia, at Kozane, in an apparently Megarian inscription (no. 25), and in Bottia, at Archontiko (no. 17).

The use of the ‘open’ form as a vowel is attested again at Aiane once in the end of the sixth century BCE (no. 16) and twice in the fifth century BCE (no. 29 and no. 33), once in the area of Thessaloniki paired with a tail-less *rhô* (Ρ) in a very Ionic graffito of the sixth century BCE (no. 15), and more commonly at Pella in Bottia (no. 36, no. 40, no. 42, no. 43, no. 45, no. 46) and Vergina in Emathia (no. 39, no. 48, no. 51) in inscriptions of the fifth and early fourth century BCE that generally exhibit Ionic letter(form)s (e.g. Ξ, Ω, Ξ, Ρ).

Letter *iôta*

The letter *iôta* is steadily appearing in Macedonia in the common straight form (Ι) except of three cases: on a bronze helmet of the “Illyrian” type probably from Northern Greece with an ownership inscription in the Corinthian alphabet (no. 14); on a bronze helmet of the “Illyrian”

³¹ LSAG² p. 28.

³² Woodard 2017:197–218.

type found at Edessa with an ownership inscription that is possibly in the Korinthian alphabet (no. 31); and possibly on a graffito from Karaburnaki (no. 11), a site close to Potidaia and the findspot of another probably Korinthian inscription (no. 21). In all three cases the ‘crooked’ *iôta* (Ϛ) is probably indicative of the Korinthian script (see also *epsilon* and *san*).

Letter *lambda*

Among the occurrences of *lambda* in a form other than the equilateral (Λ), it appears with one stroke standing upright and the other slanted, shorter and growing from the top of the former (ℓ) on two identical kantharoi with ‘twin’ inscriptions found at Archontiko (no. 17) and at Aiane (no. 16), in which the alphabet used is most likely the Attic.³³ The reverse form (ℓ), which is characteristic of Attika, Boiotia, Euboia, and Opountian Lokris,³⁴ features in a probably Aiolic or Euboic inscription on a gray-ware cup from Methone (no. 1), on an amphora from Methone (no. 5), in a probably Attic ownership inscription again from Methone (no. 12), and in a probably Attic graffito on a sherd from Karabournaki (no. 10).

Letter *ksi*

The earliest attestation of the double consonant *ksi* in Northern Greece has been found at Methone on a skyphos of the Thermaic Gulf, where it is rendered in the full form ΧϚ but reversed (ϚΧ, no. 7);³⁵ interestingly, in this reversed form it has been found again at Methone in a most likely Attic inscription on a sixth century BCE kylix (no. 12). Methone has produced

³³ Kritzas 2017:n36.

³⁴ LSAG² Attica λ2, Boiotia and Euboia λ1, Lokris λ3.

³⁵ The double consonant *ksi* is written in full in the scripts of Attika (LSAG² p. 66), Boiotia (LSAG² p. 89: ξ1), Paros/Thasos (LSAG² p. 289: ξ1), and Rhodes (LSAG² p. 345–346). The reversal of the letters is not a rare phenomenon (see Woodard 2017:205).

another possible graphic rendering of *ksi*, that of Ξ (no. 2), which according to Woodard could be a Euboic form of the Phoenician *samekh*.³⁶

The Ionic influence is more evident at Dion, where the ‘blue’ *ksi* with three horizontal and a projecting downwards vertical bar (Ξ) features along with a ‘blue’ *chi* (χ) and an *omega* in a dedicatory inscription (no. 41). The inscription, however, is rather late (ca. 450–400 BCE) and, therefore, a certain degree of ‘ionization’ of the alphabet is expected. Still, Dion has produced another manifestly Ionic inscription (no. 38), and it may not be insignificant that these are among the few stone Archaic inscriptions in Macedonia, while Ξ is used as part of the Ionic script employed in the legend on the coinage of Alexander I (late 460s BCE).³⁷ A Ξ is also used in an *abecedarium* dated between 550–450 BCE that was found in Dardania (no. 22), which judging from the preserved letters could be rendering either of the Argive, Argolic, Corinthian, Sikelic, Ionic of Central and Northern Aegean, Doric of the Hexapolis, and Megarian scripts (LSAG²). This form apparently survived up to ca. 400 BCE, when it appears at Pella in three funerary inscriptions (no. 42, no. 44, no. 46), along with other Ionic letterforms, such as the tail-less *rhô* (ρ) and most importantly *omega*. Another funerary inscription from Nea Apollonia in Mygdonia (no. 35), now lost but clearly Ionic judging from a surviving sketch, may be related to resettled population from the Chalkidike (Thucydides 1.58.2: 434/3–433/2 BCE), rather than resident Ionians in Macedonian territory as probably attested by the gravestones of Pella (e.g. no. 40).

A gravestone from Orestis (no. 30), dated to ca. 450–400 BCE, is much more indicative combining the three bar *ksi* with no axis (Ξ) with a ‘blue’ *chi* (χ) that together point towards Ionia, Ionic Aegean, and Doric Asia Minor (LSAG²). Interestingly, this is not an isolated Ionic element in Orestis: the torso of a Late Archaic sphinx was found at Pentavrysos, a grave

³⁶ Woodard 2017:197–218; cf. the possibly Euboic *ksi* in Etruscan *abecedaria* from Italian Kyme; LSAG² p. 79 ξ 1.

³⁷ See below.

monument thus far known mostly from east of the Strymon.³⁸ Another sphinx of the Late Archaic period has been found at Archontiko,³⁹ indicating one of the routes the Ionic influences took as they spread in Macedonia, travelling along the northern coast of the Thermaic Gulf and reaching Orestis through Eordia.

Letter *san*

The letter *san* (M) is largely a characteristic of the alphabets used in Doric regions, and in the developed Greek scripts it is mutually exclusive with *sigma*, which is used by the Ionic regions. The latter is by far the most common graphic rendering of the /s/ sound in Macedonia, but in a few cases *san* is attested, mostly around the Thermaic Gulf. It is used in a certainly Korinthian inscription on a bronze helmet from Northern Greece (no. 14), in an, according to the ed. pr. Korinthian, inscription on the shield strap from Sindos (no. 9), in a possibly Korinthian inscription on a bronze helmet from Edessa (no. 31), all three being perhaps products of a Peloponnesian workshop established somewhere between Potidaia and Axios River (see *epsilon* above), but also in a graffito on a drinking cup from Karaburnaki (no. 21), a site possibly within the territorial reach of Potidaia. It seems, therefore, that *san* never entered the alphabetic tradition of Macedonia and only dispersed along with Korinthian products.

Letter *qoppa*

The letter *qoppa* (Q) has only three occurrences in the study area, all three in the southern regions, Elimeia and Pieria. In Elimeia it features on a bronze strigil from the necropolis of Aiane (no. 24) with the stem drawn at the side rather than at the middle below the circular part of the letter, a form that is otherwise known from a funerary inscription of the early fifth

³⁸ Tsoungaris 2006:687.

³⁹ Crhysostomou and Crhysostomou 2000:476n5.

century from Larissa.⁴⁰ In Pieria it features in an early (late eighth – early seventh century BCE) inscription from Methone (no. 4), incised on a gray ware amphora, which is probably Aiolic. It also features in a most likely Attic inscription on a kylix found at Methone (no. 12).

Letter *rhô*

The most common, tail-less form of *rhô* (P) appears all around Northern Greece and it is usually accompanied by Ionic letterforms (see, for instance, nos. 2, 15, 20, 22, 30, 32, 33, 36 etc.).

The tailed *rhô* (R) is common in most local Greek alphabets, except of those of Megaris and Korinthia, but not Korinth itself, and those of Ionic and Doric regions of Asia Minor, as well as the Central and Northern Aegean, where it is actually quite rare (LSAG²). It is interesting, therefore, to find in Macedonia the tailed *rhô* in inscriptions that are otherwise manifestly Ionic. One such inscription from Pella (no. 40) could be either eastern (Ionia and Ionic Islands) or western Ionic (Attic-Euboic), but the most interesting occurrence of tailed *rhô* is on a ring from Sindos (no. 27) together with an *omega*. *Omega* is an exclusively Ionic letter that, although it co-existed to an extent with tailed *rhô* in some regions, it is rarely found with it in the same inscription (see *omega* below).

Other occurrences are not surprising: in a graffito on a drinking cup from Karaburnaki that is written in the Korinthian script it is canonical (no. 21), and in a note on a sherd from Aiane that is probably influenced by Thessalian letterforms it is casual (no. 29). Reportedly it also features on a silver phiale from Vergina (no. 18), but as *epsilon* in the same inscription reportedly has a rare form that cannot be ascribed to any one of the known local Greek alphabets (see *epsilon* above), it is best to defer at present from any assumptions.

⁴⁰ Doulgeri-Intzesiloglou 2000: KP 2.

Letter *sigma*

The earliest attestations of a *sigma* are from Methone (no. 1, no. 7) and they exhibit a complex form of five to six bars in total (ξ/ξ̄). This particular form, at least according to LSAG², is only known from Euboia (σ4 with 5 bars), Lakonia (σ2 with 5 bars), the Ionic Dodekapolis (σ4), and possibly Attika (σ3), but none of these can be securely identified as the provenance of the forms in the two inscriptions from Methone. Lakonia and Ionia can be excluded in the case of no. 1 as they note *lambda* reversed (λ) instead of upright, and Ionia and Euboia can probably be excluded in the case of no. 7 on account of the rendering of the diphthong *ksi* in the full form of ΧΞ (see *ksi* above). The skyphos no. 7 being a local product and the cup no. 1 being probably Aiolic gray-ware, the letterforms may be associated with and considered within an early North Aegean sphere of interaction, extending from the Macedonian hinterland and the Thermaic Gulf to Aiolis and Phrygia in Asia Minor.⁴¹

The most usual form is the three-bar *sigma* (ς), which appears mostly in the southern regions: in Pieria, at Methone (no. 2, no. 12), and in Elimeia, at Aiane (no. 24). It also appears on two identical kantharoi with ‘twin’ inscriptions from Aiane and Archontiko (no. 16 and no. 17), which are most probably Attic (see *lambda* above), on a bronze helmet (no. 14), which is probably Corinthian, and in a graffito from Karaburnaki (no. 11), where the reading as a *sigma* is uncertain (see also *iôta* above). As a variation of the same letterform should be considered the curved form (ς̄),⁴² which is also geographically limited to the south, appearing only in Pieria, at Methone, in a most likely Aiolic inscription (no. 4).

The four-bar *sigma* (ξ) has a wider distribution appearing in Elimeia at Aiane (no. 29) and at Kozane (no. 25), in Pieria at Pydna (no. 34), in Emathia at Vergina (no. 39, no. 48, no. 51) and in

⁴¹ See Papadopoulos 2016; on gray-ware pottery and its extent see Σαριτανίδη 2013:248–249.

⁴² Jeffery (LSAG²) catalogues this as a distinct letterform in Euboia (σ3), Thessaly (σ2–3), and Aigina (σ3).

Bottia at Pella in largely Ionic inscriptions, either in script (no. 44, no. 46) or both in script and dialect (no. 36, no. 40, no. 42, no. 45), in the Thermaic Gulf at Sindos in another Ionic inscription (no. 20), as well as in Mygdonia at Nea Apollonia (no. 35), and also in Tymphaia (no. 50) along with a ‘blue’ *chi* (+), and in an *abecedarium* in Dardania (no. 22). It can be generally deduced that the central part of Northern Greece was more exposed to Ionic influences, while the southern regions had more connections to the Aiolic sphere. However, the relative scarcity of the material and the sparse chronological coverage it offers do not allow any definitive conclusions.

Letter *khi*

Probably, the most revealing among the variants of letterforms attested are those of the letter *chi*. The letter appears in two distinctive forms, the ‘blue’ (X/+) and the ‘red’ (∨) according to A. Kirchhoff’s *Studien zur Geschichte des griechischen Alphabets* (1877). The ‘red’ variation appears on a drinking cup (no. 23) found in the southern part of Eordia, just north of and perhaps attached to Elimeia,⁴³ the archaic epigraphic material of which (found concentrated at Aiane) exhibits extremely close associations with the Thessalian and Boiotian inscriptions (see also *alpha* above); on a strigil (no. 26) found in a grave at Trebeništa north of Lake Lychnitis, in a script indicative of Central Greece, although a provenance from the colonies in South Italy or Sicily through the Illyrian coast cannot be rejected (see also *alpha* above); and on a late eighth – early seventh century BCE amphora (no. 6) found at Methone in Pieria, although in this case it could equally be a non-alphabetic sign.

The “blue” form appears on a ring (no. 50) in Tymphaia, a region of an *ethnos* always associated with the Molossian kingdom to the west, and outside Macedonian affairs until the

⁴³ On the divergent opinions about the geo-political ascription of this area to either Eordia or Elimeia see Hatzinikolaou 2009:5 and esp. n. 31.

mid-fourth century BCE; on a gravestone in Orestis (no. 30), alongside an Ionic *ksi* with no vertical bar (Ξ), a co-occurrence that points towards Ionia, Ionic Aegean, and Doric Asia Minor (LSAG², see also *ksi* above), thus probably eliminating the possibility of the transmission of the ‘blue’ *chi* through Tymphaia from Epirus, which was acquainted with the Korinthian letterforms (the same applies to the form of *epsilon*); and at coastal cities around the Thermaic Gulf, where it may be ascribed to Attic influence, and from the mid-fifth century BCE onwards physical presence in the case of Methone (on an early drinking cup, no. 7, and probably also no. 12), or to Ionic influence in the case of Dion, where it is found in a dedicatory inscription on stone that also features an *omega* (no. 41), and Vergina, where it is found in a possibly public inscription written in the Attic-Ionic dialect (no. 39).

The Ionic influence in the sixth and early fifth century BCE is further attested by the early fifth century BCE coinage of the Thracian tribes that mostly use east Ionic letterforms,⁴⁴ with the exception of the coins of Ichnai, a city on the lower Axios River, which displays its ethnic using both the ‘red’ and the ‘blue’ *chi* in different issues.⁴⁵ The exact chronological relation between the issues is unclear, but Babelon (1907:1107) thinks that the one with the ‘red’ *chi* is the earlier one.

Letter *omega*

The letter *omega* (Ω) was a particularity of Ionia, Knidos, Paros/Thasos, and Melos up to ca. 400 BCE (before the ‘Eukleides Decree’, 403/2 BCE).⁴⁶ Thus, its occurrence on stone inscriptions

⁴⁴ Babelon 1907:1032–1076, and 1133–1126; Head 1911:194–202; Gaebler 1935:48–50, 55–57, 63–72, 80–92, and 144–148.

⁴⁵ Babelon 1907:1103–1108, no. 1551: $\text{IYNAI}[\text{ON}]$, no. 1553: $\text{I+NAI}\Omega\text{N}$, no. 1554: I+NAON ; Head 1911:199. Jeffery (LSAG² p. 364) speculates that the ‘red’ form was “taken from some Euboic source in Chalkidike”.

⁴⁶ LSAG² p. 37.

roughly dated to the late 5th – early 4th century BCE⁴⁷ should not be taken necessarily as indicative of an earlier diffusion of the letter in Macedonia. Still, most of these betray their association with the Ionic sphere through other elements as well: no. 38 and no. 43 are probably Ionic in script; no. 41, no. 42 and no. 46 use fully Ionic script, also featuring Ξ ; no. 35 is fully Ionic in both script (also featuring Ξ) and dialect, while no. 48 and no. 51 are both manifestly Attic-Ionic in script, dialect and art; and no. 49, if a gravestone, features a name that is known mostly from Ionic cities and, if a dedication, refers to Apollo with an epithet known from Naukratis, an emporion established by Ionians.⁴⁸ The inscription on no. 32 also seems Ionic, on account of the four-bar *sigma*, but it is of unknown provenance and it could have come from the Chalkidike.

The earliest occurrence of an *omega* in Macedonia is on a portable object (no. 27: mid-fifth century BCE) that was found at Sindos, a coastal city on the Thermaic Gulf, where an inscription on a ring features both an *omega* and a tailed *rho* (P), an uncommon combination, that only re-occurs, at least, in Northern Greece on the coins of the Thracian tribe of the Orrheskians.⁴⁹ This may be indicative of the introduction of the letter in Macedonia from the east, rather than through the maritime routes ending in the Thermaic Gulf where all occurrences of the letter seem to concentrate.

Discussion and Conclusions

Geographically, and irrespectively of the historical background, it would seem that distinct letterforms were used interchangeably throughout Macedonia and the surrounding regions.

⁴⁷ The date of the ed. pr. for no. 51 is considerably later, but the letterforms seem to belong to the early 4th century BCE at the latest.

⁴⁸ Nigdelis 2015:296.

⁴⁹ Babelon 1907: nos. 1467–1474: $\text{ORH}\Sigma\text{KION}$; Head 1911:195.

But, when political circumstances, trade and cultural ties, and the local epigraphic context (if any) are taken into account, the distribution of letterforms acquires particular significance.

The archaic local Greek scripts appearing throughout Upper and Lower Macedonia are in accordance with the historical sources that present what we know through the Athenian point of view as a ‘Macedonia’ divided in several autonomous political entities, as well as containing several formerly Thracian settlements and colonial city-states, some of which later formed enclaves in Macedonian territory.⁵⁰

The colonies, not unexpectedly, used the local scripts of their *metropoleis*,⁵¹ as they did with political institutions and cults. Thus, several local scripts of Southern and Eastern Greek city-states are present on the coast and in the immediate or even wider hinterland, as colonies did business with the neighboring states. The coastal area from Potidaia and up to Axios River exhibits a relatively strong presence of Corinthian letterforms, as those of *epsilon*, *iôta*, and *san* indicate (see above), along with Corinthian products. The Thermaic Gulf as a whole was open to Ionic influence: from the area of Thessaloniki westwards, and especially to Pella Ionic forms prevail along with Ionic influences in art that reach even farther inland to Orestis.⁵² In Pieria, at Methone, an Eretrian colony, and at Dion the Ionic element is strong, but also Aiolic elements are noted in private inscriptions, presumably because of contacts with neighboring

⁵⁰ Therme and Pydna were captured by the Athenians in 432 BCE (Thucydides 1.61.2); Methone became a member of the Delian League in the late 430s BCE (IG I³ 280, col. II, line 67) and still was in 415/4 BCE (IG I³ 290, col. III, line 8); Pydna revolted (unsuccessfully) against the Macedonian king in 411 BCE (Diodoros 13.49.1); the Athenian general Timotheos ‘liberated’ many coastal cities in the late 360s BCE (Dinarchos 1.14 and 3.17; Demosthenes *Philippic 1* 4–5; see also IG IV², lines 7–9).

⁵¹ See e.g. Thasos (LSAG² p. 300–303), Korkyra (LSAG² p. 232–233), colonies in the Chalkidike (LSAG² p. 363–364).

⁵² Ionic sculpture in Northern Greece is more widespread than presented here; see further Tiverios 2017b:49.

Thessaly, or simply as part of the medley of scripts and dialects that appear in trade hubs such as Methone.

Macedonia, however, is a primarily continental country. It is in these inland regions that the differences are more striking. Elimeia is strongly connected to Thessaly, while Tymphaia, which was anyway never within the reach of the king of Lower Macedonia until Philip II, belongs most likely to the Molossian periphery. Orestis was politically following the tide, but it seems that its connection with Lower Macedonia was strong, although its links to Tymphaia, and by extension the Molossian kingdom, cannot be rejected or overlooked on account of a single inscription. Whether its cross-like ‘blue’ chi came from Central Macedonia or through the Pindos Mt. Range is impossible to determine with absolute certainty; however, the rest of the letters in the same inscription and the Ionic imports of or influences in art are indicative of the diversity that could be assimilated, and actually render Orestis representative of the situation in the entire Northern Greece as regards the adoption of external cultural elements.

It is, however, questionable whether or not the use of particular or mixed letterforms in the coastal cities of the Thermaic Gulf reflected their use in Macedonia proper, i.e. the regions comprising the kingdom of Lower Macedonia. The only good evidence we have on the Macedonian state adopting a script is the coinage of Alexander I, which has been now dated to 465–454 BCE,⁵³ after Alexander took control from the Bisaltians of a silver mine in the region of Mt. Pangaion. Alexander’s name features on his coinage in a clearly Ionic script using Ξ, Λ, and Ϙ.⁵⁴ However, the issues in his name are not essentially different in weight standard, style and dies from other Thracio-macedonian coinage of the period, especially those of the Bisaltians, whose coinage, if uninscribed, is indistinguishable from that of Alexander. The Bisaltians also

⁵³ Kagan 1987:24–25.

⁵⁴ Babelon 1907:1077–1096; Head 1911:218–220; Gaebler 1935:148–153.

employed the Ionic script in their later issues, abandoning the Parian/Thasian that they used in their earlier ones.⁵⁵ It is possible that Alexander simply ordered the change of the legend but continued coin production as before, without consideration about the letterforms the engraver would use. Furthermore, he may have had also taken over the connections to foreign markets. It is questionable whether these inscriptions are intended to be legible by the Thracomacedonian 'milieu' or foreign recipients of this heavy-weight coinage, most probably destined to be exported to foreign markets, rather than be circulated through internal financial transactions. It is more likely that inscriptions on Thracomacedonian coinage are borrowing the alphabet of the (main) trade partner, and that explains the changing letterforms in the coinage of Ichnai, which goes from a 'red' to a 'blue' *chi* (along with going from the Phoenician to the Babylonian weight standard) or the reverse,⁵⁶ or in the coinage of the Bisaltai, which were issued first in the Parian/Thasian and then in the Ionic script.⁵⁷

It is, therefore, impossible to ascertain whether or not Alexander made a conscious choice concerning the letterforms used in writing, at least, public inscriptions in the Macedonian kingdom. Writing in Northern Greece in the Archaic and Classical period seems to have had a rather occasional character, allowing for different scripts to be adopted depending on the place, the time, the scribe etc.⁵⁸ But patterns do emerge by the distribution of distinct letterforms. These may be linear, as in the case of the Korinthian letterforms ranging along the land route from Potidaia to Edessa, or may be regional, as in the case of Ionic influences

⁵⁵ Babelon 1907:1071–1078; Head 1911:199–200; Gaebler 1935:48–50.

⁵⁶ Babelon 1907:1103–1108; Head 1911:199.

⁵⁷ Babelon 1907:1071–1078; Head 1911:199–200.

⁵⁸ Oikonomaki 2017.

extending all the way from the Strymon to Orestis and Elimia or in the case of *san* or *omega* appearing only around the Thermaic Gulf.

Within the kingdoms of Upper Macedonia the picture is somewhat more straightforward. Orestis, as shown above, was probably receiving cultural elements from all neighboring regions, and Lynkos and Pelagonia have produced no (published, at least) epigraphic material to comment on, just as their neighboring Illyrian and Paionian regions. Eordia, too, has produced no early inscriptions apart from a single inscribed cup from its southern part that was more likely part of Elimeia. Elimeia had clearly strong ties to Thessaly, but at Dion in Southern Pieria, on the other side of Mt. Olympus, the Ionic script was apparently the rule. Each kingdom seems to have had been making its own political and trade associations, through which a number of different local scripts were introduced and diffused in Macedonia, were assimilated in some regions or cities, and survived until the early fourth century BCE when they were entirely replaced by the Ionic script.

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Table 1: Catalogue of published inscriptions; arranged in chronological order.

No.	Inv. No.	Site/Region	Type of inscription	Distinct letter forms	Date (BCE)	Bibliography
1	Μεθ 2249	Methone, Pieria	Graffito on a cup	Ε, Ι, Λ, Μ, Ν, Ο, Ξ, Φ	late 8th – early 7th c.	Methone I, no. 1 (SEG 62.424)
2	Μεθ 2248	Methone, Pieria	Graffito on a skyphos	Ρ, Δ, Ε, Β, Ι, Κ, Μ, Ν, Ο, Π, Σ, Τ	late 8th – early 7th c.	Methone I, no. 2 (SEG 62.424)
3	Μεθ 2253	Methone, Pieria	Graffito on a skyphos	Γ, Ε, Ι, Ρ=pi	late 8th – early 7th c.	Methone I, no. 3 (SEG 62.424)
4	Μεθ 2237	Methone, Pieria	Graffito on an amphora	Α, Δ, Ε, Μ, Ο, Φ, Σ=sigma, Τ, Υ	late 8th – early 7th c.	Methone I, no. 4 (SEG 62.424)
5	Μεθ 2466+2431	Methone, Pieria	Graffito on an amphora	Α, Λ	late 8th – early 7th c.	Methone I, no. 9 (SEG 62.424)
6	Μεθ 2420	Methone, Pieria	Graffito on a chian amphora	Ψ=chi?	late 8th – early 7th c.	Methone I, no. 17 (SEG 62.424)
7	Μεθ 2247	Methone, Pieria	Graffito on a skyphos	Ε, Ι, Μ, Ξ/ξ=sigma, Χ	late 8th – early 7th c.	Methone I, no. 22 (SEG 62.424)
8	Μεθ 7351	Methone, Pieria	Graffito on an amphora	Ε, Δ	early 7th c.	Morris and Papadopoulos <i>forthcoming</i>
9	Σ 9190	Sindos, Thermaic Gulf	Inscription on a bronze shield strap	Λ(?), Μ=san	ca. 570	Despini 2003 (SEG 55.712) = Despini 2016b, no. 665

10	K96.1284	Therme, Thermaic Gulf	Graffito on an amphora (or sherd?)	A, I, K, L	600–550	Tiverios 2000 (SEG 50.636)
11	unknown	Therme, Thermaic Gulf	Graffito on an amphora	E, ζ=iôta or sigma?, Φ	6th c.	Tiverios, Manakidou, and Tsiafaki 2011:333 and fig. 6
12	Μεθ 8103	Methone, Pieria	Graffito on a kylix	A, E, I, L, N, O, P/P, S/S, V, t̄s/X̄s	6th c.	Morris and Papadopoulos <i>forthcoming</i>
13	Μεθ 5882	Methone, Pieria	Graffito on a kylix	E, I, M=mu, °	6th c.	Morris and Papadopoulos <i>forthcoming</i>
14	X3	N. Greece (reportedly)	Graffito on a bronze helmet	A, F, B=epsilon, O, ζ=iôta, M, N, Π, M=san	575–500	Amandry 1971, nr. 3; LSAG ² , p. 479, no. A
15	MΘ 26138	Thessalonike, Thermaic Gulf	Graffito on a clay kylix	H, P	550–500	Tiverios 1990:72 (SEG 40.558)
16	no. 7478	Aiane, Elimeia	Graffito on a clay kantharos	A, Δ, E, H, I, K, N, M, O, S, T	end of 6th c.	Karamitrou-Mendesidi 1993:78–79 (BÉ 1994.385a; SEG 43.363A); Chrysostomou 2009
17	unknown	Archontiko	Graffito on a clay kantharos	A, Δ, H=h, I, K, N, O, S	end of 6th c.	Chrysostomou 2009 (BÉ 2011.412; SEG 59.651)
18	unknown	Vergina, Emathia	Graffito on a silver phiale	Ξ(?), R	ca. 500	Andronikos and Kottaridou 1988:103–104 (no photo given)
19	unknown	Aiane, Elimeia	Graffito on a pithos	Δ, D (angular), E, I, N, T	Late Archaic period	Karamitrou-Mendesidi 1993:81 (BÉ 1994.385d; SEG 43.363D)
20	ΣΕ 11	Sindos, Thermaic Gulf	Graffito on a clay cup or skyphos	A, Λ=gamma, O, I, N, O, P, S	ca. 550–450	Gimatidis 2010, no. 737; Tiverios 2017a:419–420
21	T 291	Therme, Thermaic Gulf	Graffito on a clay skyphos	O, Π, M=san, P, V	ca. 525–450	Vokotopoulou 1986:83
22	unknown	Gornje Gadimlje, Dardania	Dipinto on an amphora or stamnos	N, Ξ, O, Π, P, S, T, Y, Φ	late 6th / mid-5th c.	Parovič-Pešikan 1978:35–41 (SEG 33.488); Lejeune 1989 (SEG 39.558)
23	EOPA 2349	Pontokome, Eordia	Graffito on a clay kylix	Λ, M, T, V	500–490	Karamitrou-Mentésidi 2011 (nr. 126)

24	unknown	Aiane, Elimeia	Graffito on a bronze strigil	Δ/Δ, Ο, Γ, Q (q), ζ	ca. 500–475	Karamitrou-Mendesidi 2001:68–69 (SEG 49.671)
25	KAMK 549	Kozane, Elimeia	Inscription on a silver phiale	Α, Β, <=gamma, Η=η, Θ, Ι, Μ, Ν, Ο, Ρ, Ξ, Τ	early 5th c.	Kallipolitis and Feytmans 1951:92–96 (BÉ 1951.137; SEG 13.306)
26	P-36	Trebenište, anc. Lychnitis	Graffito on a bronze strigil	Λ, Ε, Ι, Μ=mu, Ν, †=tau, V=chi	early 5th c.	Parovič-Pešikan 1988:44–48 (SEG 38.719); IG X 2.2, 411
27	MΘ 8415	Sindos, Thermaic Gulf	Inscription on a gold ring bezel	Δ, Ν, Ο, Ρ, Ω	480–470	Despini 1985, no. 96 (Despini) (BÉ 1988.263); Despini 2016b, no. 366
28	Σ 7740	Sindos, Thermaic Gulf	Graffito on a clay skyphos	ξ, ↑=delta? (letter or numeral?)	470–450	Despini 1985, no. 355 (Tiverios); Despini 2016a, no. 195 (Saripaniidou)
29	no. 7477	Aiane, Elimeia	Ostrakon with trade (?) note	Α, Ε, Ι, Κ, Γ, Ρ, Ξ, Δ/Δ (numeral), Η (numeral)	mid-5th c.	Karamitrou-Mendesidi 1993:82–83 (BÉ 1994.385e; SEG 43.363E)
30	unknown	Maurochori, Orestis	Gravestone	Α, Ε, Ν, Ξ, Ο, Ρ, +	mid-5th c.	Sverkos 2009 (BÉ 2011.404; SEG 59.668)
31	no. 68	Edessa	Graffito on a bronze helmet	Ε, ζ=iôta, ^=mu, Μ=san	5th c.	Chrysostomou 2013:84–87
32	no. 248	N. Greece (probably)	Punched inscription on a lead pyxis	Δ, Γ, Ε, Ι, Μ, Γ, Ρ, Ξ, Ω	5th c. (?); 4th c., ed.pr.	Tiverios 1991 (BÉ 1992.302; SEG 41.580)
33	unknown	Aiane, Elimeia	Gravestone	Α, Γ, Ε, Η, Κ, Λ, □=omikron, Ρ	5th c. (?); no date, ed.pr.	Karamitrou-Mendesidi 2013:72 (BÉ 2013.258; SEG 60.631)
34	Πυ 3895	Pydna, Pieria	Horos	Α, Ι, Ν, Ο, Γ, Ξ	5th c.	Xydopoulos 2000, no. 1 (BÉ 2001.277; SEG 50.622)
35	unknown	Nea Apollonia, Mygdonia	Gravestone (?)	Ι, Μ, Ν, Ξ, Ο, Ξ, Φ, Ω	Classical period	Juhel and Nigdelis 2015, no. 18 (BÉ 2015.437)
36	BE 1977/1	Pella, Bottia	Funerary epigram	Α, Δ, Ε, Η, Θ, Ι, Κ, Μ, Ν, Γ, Ρ, Ξ, Τ, V	450–400	Lilimbaki 1977:259–263 (BÉ 1979.260; SEG 27.298 and 1291); EKM II, no. 544
37	MΘ 18737	Toumpa, Thessalonike,	Graffito on a clay skyphos	Γ, ↑ (numeral), Ε	425–400	Kefalidou 2007–2008:174–175 (SEG 58.641)

		Thermaic Gulf				
38	ΜΔ 7	Dion, Pieria	Funerary table	Α, Ι, Μ, Ο, Ρ, Ξ, Τ, Ω	5th – early 4th c.	Bakalakis 1966:347–348 (ΒΕ 1969.359; SEG 25.705)
39	ΒΛ 19	Vergina, Emathia	Treaty or decree (?)	Α, Γ, Δ, Ε, Η, Κ, Μ, Ο, Π, Ρ, Ξ, Τ, Χ, Υ	end of 5th c.	Saatsoglou-Paliadeli 2009 (ΒΕ 2011.407; SEG 59.634); EKM II, no. 6
40	ΒΕ 1977/1137	Pella, Bottia	Gravestone	Α, Β, Ε, Η, Θ, Ι, Κ, Λ, Ο, Ρ, Ξ, Τ	late 5th – early 4th c.	Lilimbaki-Akamati 1987–1988, no. 1 (ΒΕ 1990.464(1); SEG 38.647); EKM II, no. 517
41	ΜΔ 8013	Dion, Pieria	Dedicatory base	Α, Δ, Ι, Κ, Μ, Ν, Ξ, Π, Ρ, Τ, Υ, Χ, Ω	late 5th – early 4th c.	Pingiatoglou 2011 (ΒΕ 2013.261; SEG 61.490)
42	ΒΕ 1977/2	Pella, Bottia	Gravestone	Α, Δ, Ε, Η, Ι, Κ, Λ, Ξ, Ο, Ρ, Ξ, Τ, Ω	late 5th – early 4th c.	Lilimbaki 1977:263–264 (ΒΕ 1979.260; SEG 27.299); EKM II, no. 476
43	ΒΕ 1999/996	Pella, Bottia	Gravestone	Α, Β, Ξ, Ι, Ω	late 5th – early 4th c.	Akamatis 1987 (ΒΕ 1988.839; SEG 36.627); EKM II, no. 514; Kalaitzi 2016, no. 62
44	ΒΕ 1980/454	Pella, Bottia	Gravestone	Α, Δ, Η, Θ, Ι, Κ, Μ, Ν, Ξ, Ο, Ρ, Ξ, Τ, Υ	late 5th – early 4th c.	Akamatis 2001:485 (SEG 49.754); EKM II, no. 489
45	ΒΠ 1994/9	Pella, Bottia	Gravestone	Α, Ε, Η, Λ, Ν, Ο, Ρ, Ξ, Τ, Υ	late 5th – early 4th c.	Chrysostomou 1998, no. 1 (pp. 365–366) (ΒΕ 1999.345(4); SEG 48.820); EKM II, no. 515
46	ΒΕ 1992/833	Pella, Bottia	Gravestone	Α, Γ, Ε, Η, Θ, Ι, Ν, Ξ, Ο, Ρ, Ξ, Τ, Υ/Υ, Ω	late 5th – early 4th c.	Akamatis 2001:485 (SEG 49.755); EKM II, no. 485
47	ΒΕ 1999/3	Pella, Bottia	Gravestone	Ι, Τ	late 5th – early 4th c.	Lilimbaki-Akamati 2002:264n72; Kalaitzi 2016, no. 64
48	ΒΛ 2935	Vergina, Emathia	Block from a funerary monument	Α, Δ, Ε, Η, Θ, Ι, Κ, Λ, Μ, Ν, Ο, Π, Ξ, Τ, Υ/Υ, Ω	ca. 400	Saatsoglou-Paliadeli 1996 (ΒΕ 1997.369; SEG 46.830); EKM II, no. 54
49	ΙΣΤ' 3001	Lebet Table, Oraiokastro, Thermaic Gulf	Funerary or Dedicatory base	Α, Ι, Κ, Μ, Ο, Ω	early 4th c.	Lioutas, Mandaki and Iliopoulou 2005:303 (ΒΕ 2005.348; SEG 53.629); IG X 2.1 Suppl. 1660

50	unknown	Prionia, Tymphaia	Inscription on a gold ring bezel	A, E, I, K, P, Σ, Υ, += <i>chi</i>	early 4th c. (?); no date, ed.pr.	Karamitrou-Mendesidi 2010:24 (SEG 57.591)
51	BA 11	Vergina, Emathia	Funerary <i>naiskos</i>	A, B, Γ, Δ, E, H, I, K, Λ, M, N, O, Π, P, Σ, T, Y, Φ, Ω	400–350 (?); 340–330, ed. pr.	Saatsoglou-Paliadeli 1984, no. 3 (SEG 35.772); Kalaitzi 2016, no. 39; EKM II, no. 52



Figure 1. Regions (in red), mountains (in black), and rivers (in blue) in and around Macedonia.



Figure 2. Distribution of the letter *alpha*.

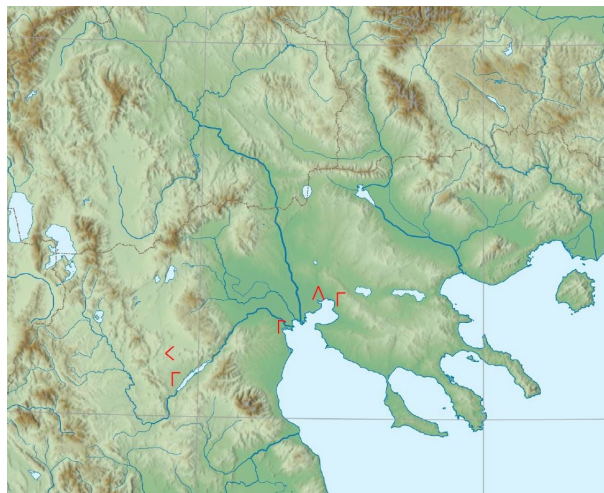


Figure 3. Distribution of the letter *gamma*.



Figure 4. Distribution of the letter *delta*.

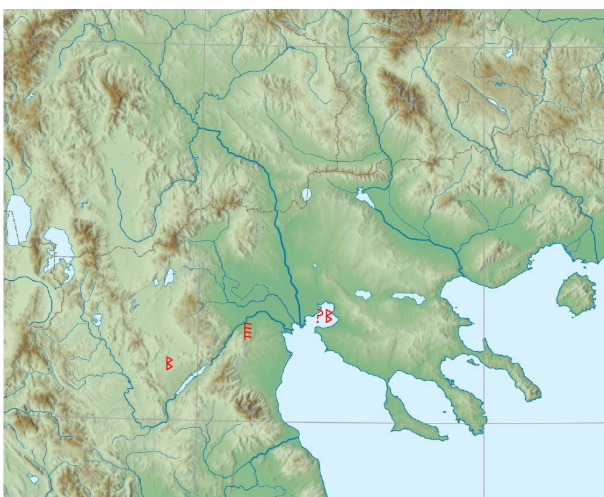


Figure 5. Distribution of the letter *epsilon*.

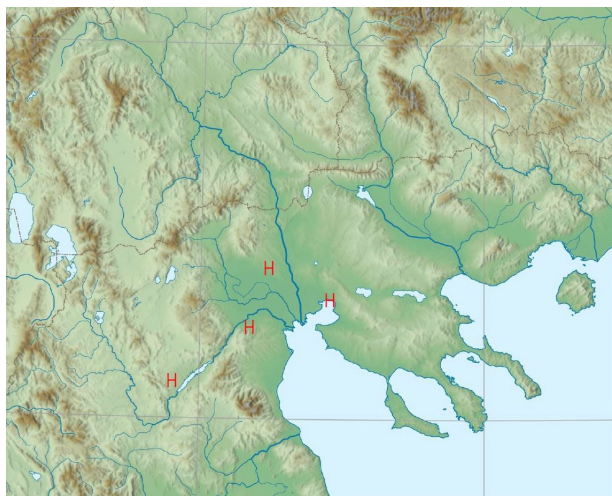


Figure 6. Distribution of the letter *hêta*.

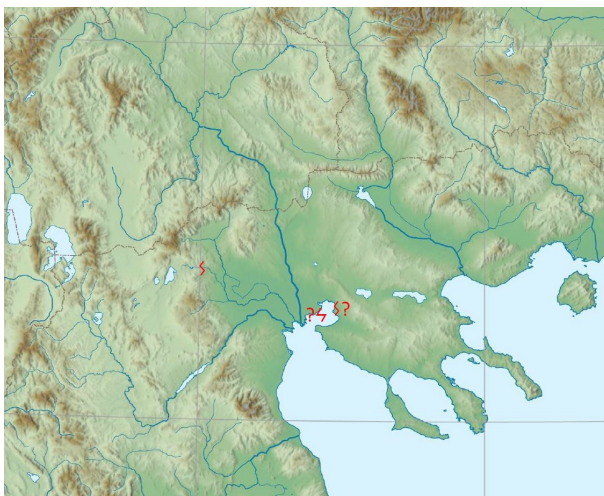


Figure 7. Distribution of the letter *iôta*.

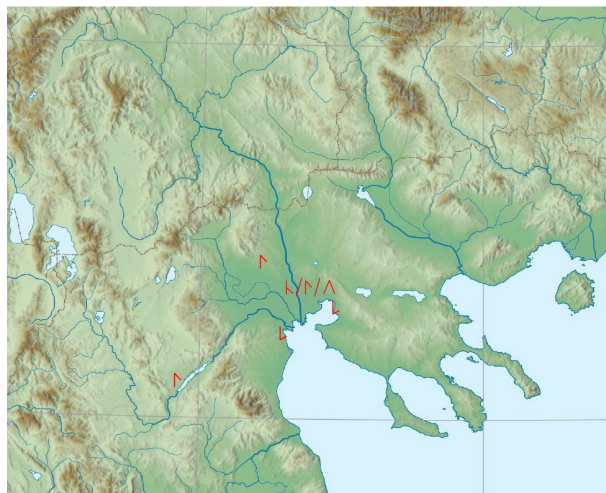


Figure 8. Distribution of the letter *lambda*.

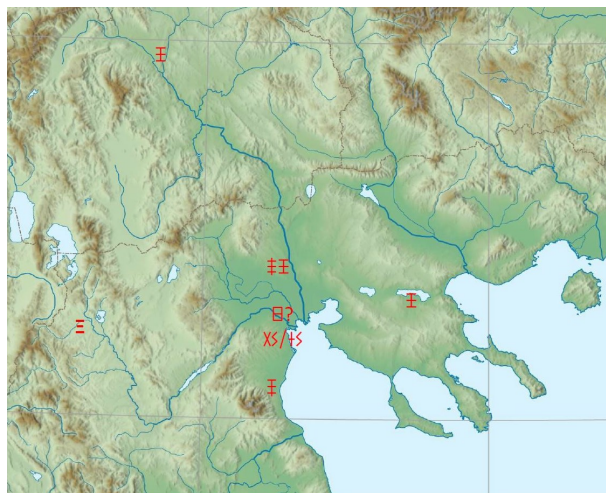


Figure 9. Distribution of the letter *ksi*.

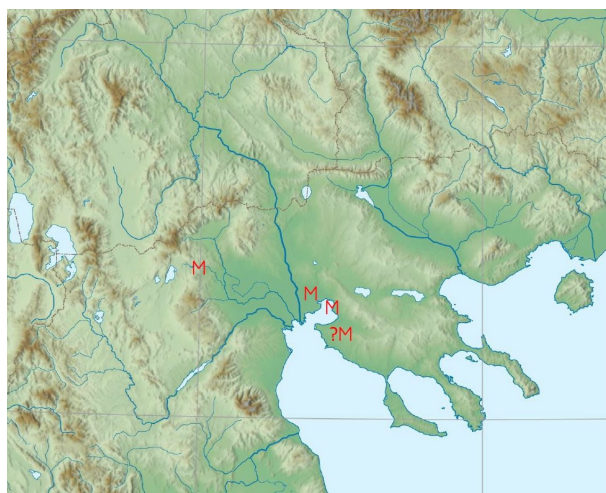


Figure 10. Distribution of the letter *san*.

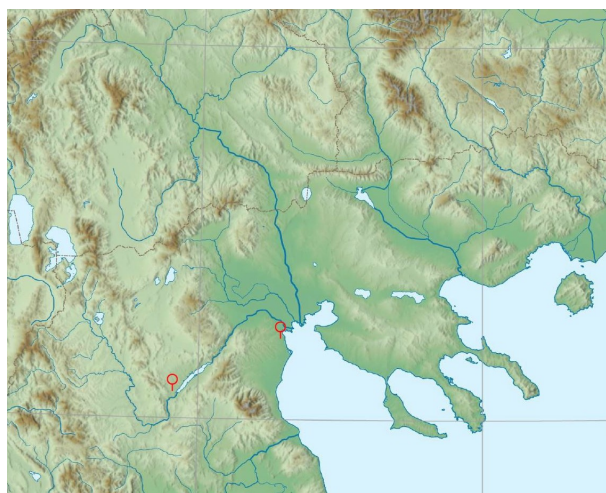


Figure 11. Distribution of the letter *qoppa*.

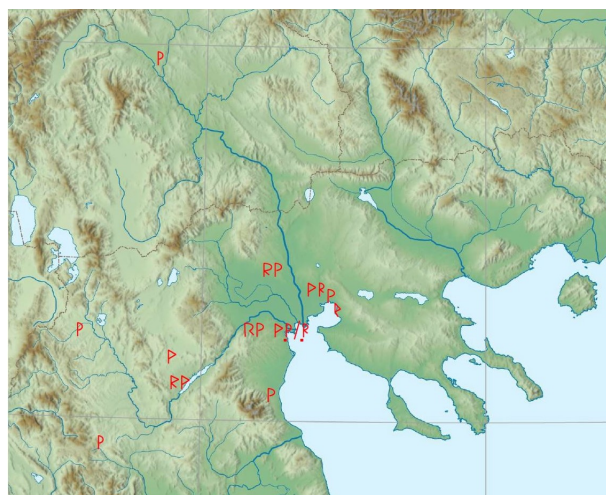


Figure 12. Distribution of the letter *rho*.

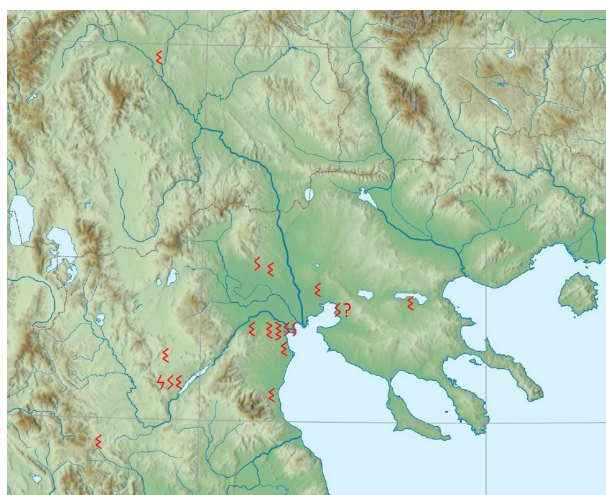


Figure 13. Distribution of the letter *sigma*.



Figure 14. Distribution of the letter *chi*.



Figure 15. Distribution of the letter *omega*.