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Understanding Relations Between Scripts II
Early Alphabets


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Chapter 8

The development of Greek alphabets: Fluctuations and standardisations

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However alphabetic writing arrived in Greece – a question that continues to be debated – we know that a number of different regional variations of the Greek alphabet (local scripts with some significant differences in sign repertoire and sign shapes) arose at an early stage, making it appropriate to speak of alphabets in the plural. There are various models for thinking about how such a situation might have arisen, as represented for instance by the opposing camps advocating monogenesis (a single initial adaptation followed by local differentiation involving additions/reductions to the repertoire and other changes) or polygenesis (multiple initial adaptations following separate local trajectories); the former remains the more popular (see e.g. the lengthy exposition in Wachter 1989). Further problems often discussed are the date and place(s) of adaptation, the source script(s) from which the adaptation was made (usually assumed to be Phoenician but Aramaic has been suggested as a possibility) and the relationship between the Greek alphabet and other early ones, particularly in Phrygia and Italy. This last aspect is especially important because it is by no means certain that Greek speakers alone (or at all?) first borrowed and adapted a Semitic consonantal alphabet and added dedicated vowel signs to it, and it would perhaps be better to think of this alphabet-with-vowels as a Mediterranean rather than Greek phenomenon. The framing of all these issues as ‘problems’ and ‘questions’ may alert the reader to the fact that, despite some at times quite intense debate, little ground has been gained other than some prevailing opinions. An attempt to move the debate

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forward, particularly in regard to the date and earliest stage of development, is indeed at the heart of Willemijn Waal’s chapter in this volume (see also Waal 2018). The present chapter does not aim to deal with the problems outlined very briefly above, but they must nevertheless be flagged up at the outset because the way we think about the genesis of alphabetic writing in the Mediterranean affects the way we think about the starting position for the Greek alphabet(s). Indeed, the above questions may be considered unanswerable, at least with any degree of certainty or specificity. Even the motivations behind the original adaptation of the Greek (/Mediterranean) alphabet and its usage in its earliest years remain a matter of some contention in scholarship: the idea that recording hexametric poetry was the sole motivation (Powell 1991) has given way to a range of more nuanced views emphasising the roles of trading networks, religious practice at international sanctuaries and international elite symposiastic behaviour in the spread of writing (see for instance the papers in Strauss-Clay, Malkin and Tzifopoulos 2017). Nevertheless, the possibility of recovering or reconstructing something of the circumstances in which the alphabet first appeared and subsequently developed remains high on the agenda of current scholarship.

My aim is rather to explore and to some extent rethink the nature of the evidence for the regional variation in Greek alphabetic writing during the first centuries of its existence. It has been eloquently illustrated by Nino Luraghi (2010) that the existence of the regional variants of the Greek alphabet has everything to do with conscious choices on the part of Greek speakers in connection with perceived political, linguistic and ethnic boundaries. Alan Johnston has also questioned (1998) and emphasised (2012) links between local alphabets and the poleis. There can be no doubt that the geopolitical landscape of the Greek-speaking world in the Archaic period bore a close relationship with, and was to some extent enshrined in, the use and maintenance of writing systems that were visibly distinct from each other despite obviously being closely related. However, an important caveat is that this state of affairs is only clearly demonstrable for the later part of the Archaic period, let’s say at least partially by the second half of the seventh but more fully when we get to the sixth century BC. It is precisely because the distinct local alphabets are so well established by this period that it is possible to provenance many inscriptions on the basis of letter forms.

By contrast, the earliest Greek alphabetic inscriptions, from the mid-eighth to the mid-seventh century, often cannot be as easily pigeonholed – not only because of the admitted scarcity of the evidence, but also because the distribution of evidence does not quite fit what we might expect based on the later distribution. In Luraghi’s words, this earlier period features ‘a surprisingly high number of cases of local use of letter forms that will not figure in the local alphabet once the evidence becomes more abundant and consistent forms of local alphabets start becoming visible’ (2010, 73). The most economical explanation for this state of affairs could be that the regional alphabets simply had not yet acquired their fixed forms at this stage – with the caveat that local processes of standardisation may indeed have taken place at different rates, in different contexts.

A useful parallel in Cyprus

Before turning to the Greek alphabetic material, culminating in a case study focused on the Cretan alphabet, a brief excursus on Cypriot writing can provide a useful parallel. During the Iron Age, Cyprus was divided into a number of independent city kingdoms, with their own kings, political structures, coinage and territory. Some of the earliest evidence for this political division of the island comes from external sources during the period of the island’s inclusion in the Assyrian empire: official inscriptions of the Assyrian kings Sargon II (late eighth century BC) and Esarhaddon (early seventh century BC) list seven and ten Cypriot kingdoms respectively, and these kingdoms can for the most part comfortably be identified with ones that are well attested from later historical sources (see Yon 1987b, 365–367, with particular attention to the Qartihadash problem, and O. Masson 1992a). There also exist two seventh-century BC Cypriot inscriptions, commissioned by kings of independent Paphos (a kingdom in western Cyprus) who refer to themselves by the Greek term basileus. Over time, it can be demonstrated that writing – in its peculiar syllabic form in the case of Cypriot Greek and Eteocypriot – was appropriated by the city kingdoms as a significant tool of administration and local power (Iacovou 2013).

There is an obvious and important difference between Cyprus and the Aegean concerning developments in literacy. In Cyprus, the skill of writing in a syllabic script remained in use without interruption (albeit with some changes) from the Late Bronze Age through to the age of the city kingdoms, which themselves had their roots in an earlier situation of political diversity on the island (on the longevity of regional political centres on Cyprus, see Snodgrass 1994 and Iacovou 2002, 2007). In Greece, on the other hand, the sudden demise of Mycenaean civilisation around the end of the thirteenth century BC coincided with the complete loss of literacy in most or all areas, and the resurgence of writing attested from the eighth century onwards (now alphabetic, not syllabic like the Mycenaean Linear B script) followed a period of illiteracy. Nevertheless, Cyprus exhibits a trend in writing that is both comparable and more-or-less synchronic with the appearance of regional alphabets in Greece.

2 I will instead point the reader in the direction of some of the most recent pieces on the early years of the Greek alphabet, which, taken together, will give some impression of the current state of debate: Papadopoulos 2016; the papers in Strauss-Clay, Malkin and Tzifopoulos 2017; Bourogiannis 2018; Waal 2018. At time of going to print, the forthcoming volume by Parker and Steele will also be of relevance, as will the papers by Elvira Astoreca and Whitley in Boyes, Steele and Elvira Astoreca (forthcoming).

3 Gold bracelets of king Etewandros (ICS 176), silver gilt bowl of king Akestor (ICS 180a), both found at nearby Kourion.

4 There were also centres of Phoenician political activity on Cyprus (using Phoenician language and script in official inscriptions and coinage), of which Kition was probably the, or one of the, earliest.
The Iron Age embodiment of syllabic Cypriot writing, usually termed the ‘Cypriot Syllabary’ or ‘Cypro-Greek Syllabary’ to distinguish it from the earlier undeciphered Cypro-Minoan of the Late Bronze Age, began to appear in force in the eighth–seventh centuries BC. When this occurred, neither the technology of writing nor the politically diverse set-up of Cyprus was new, but there were nevertheless some clear changes both in administration and in the uses of writing that led to a very striking situation of epigraphic regionalism during the seventh–fourth centuries BC, namely the existence of fixed local variations of the Cypriot syllabic script. There were two main variant syllabaries: the Paphian (used in the area of Paphos) and the Common (used at other Greek-speaking and Eteocypriot-speaking kingdoms). Within the latter grouping, some further local variations can also be seen, for example particular distinctive sign shapes such as the o and so of the southern city of Amathus, which otherwise uses what is basically the repertoire of the Common syllabary. The differences between the Paphian and Common syllabaries that became enshrined in their usage included differences of repertoire (different sign shapes for some sign values), of palaeography (e.g. the more angular signs typical of the Paphian syllabary) and of direction (Paphian was written left-to-right, Common right-to-left).

The establishment and regional appropriation of these variations in writing were so successful that by the fifth and fourth centuries BC, the period from which the greatest volume of epigraphy survives, authors of inscriptions in both public and private spheres were evidently both aware of and attached to the established differences between the scripts. Particularly striking is the collection of graffiti made by Cypriot mercenaries on the walls of the temple of Achoris at Karnak, Egypt, which feature a number of different named authors from different Cypriot cities. The authors of these graffiti observed all the traditional properties of their home variant of the syllabary, such that for example Onasas from Paphos wrote from left to right using the sign shapes of the Paphian syllabary, while Ages from Ledra wrote from right to left and used the distinct sign shapes of the Common syllabary.⁵

At the earlier end of the chronological spectrum, however, some surviving inscriptions suggest that the division of the Paphian and Common syllabaries was something that grew up and became fixed only once writing came to be strongly associated with administration and public display by the city kingdoms. The earliest inscriptions – like many of their alphabetic counterparts in the Aegean – tend to consist of ownership statements and/or private dedications, often written on portable items that sometimes have intrinsically commercial value. Some of these inscriptions appear to pre-date the fixed repertoires of the later Paphian and Common syllabaries, for example the inscription on an eighth century BC vase from Kouklia-Paphos shown in Figure 8.1, which reads to-ro-so-si from left-to-right and uses distinctively Paphian to alongside distinctively Common so (the ro and si are common to both syllabaries although palaeographically they are closer in appearance to Paphian variants). In fact one particular inscription from the earlier Cypro-Geometric I period (1050–950 BC), the Opheltau inscription from a tomb of the Palaepaphos-Skales cemetery, already shows what could be interpreted as mixed Paphian/Common features, although the stage of script development attested in this and contemporary inscriptions remains a bone of contention in scholarship (see e.g. Duhoux 2012; Egetmeyer 2013; Steele 2018, 55–83).

Whatever we make of the earlier evidence, the existence of texts in the eighth–seventh centuries with mixed Paphian/Common features is a clear indicator that the regional syllabaries acquired their fixed attributes only after this time; in fact, it is anachronistic to speak of these texts in terms of ‘mixed features’ given that there was evidently no distinction between Paphian and Common variants of the script at the time when they were written. The regionalisation of Cypriot syllabic writing was a response to a developing political situation across the island as the city kingdoms began to use writing for local purposes, and with it came a process of standardisation that resulted in the attribution of obligatory features to the regional syllabaries.

There may be more to this than a convenient comparandum for the regional Greek alphabets. Despite some distance and distancing, deliberate or otherwise, between Cyprus and other Greek-speaking areas, I would like to suggest that it is no accident that the timelines for developments in Cypriot syllabaries and Greek alphabets look so similar. The same could be applied to other areas too, such as the Italian peninsula, where early abecedaria (seventh century) follow a Greek model without all the modifications that characterise later examples (e.g. reductions of the overall repertoire), and where the earliest stages of writing (c. 800 BC onwards) display experimentation with orthography (e.g. in representations of the /f/ phoneme) that would later be standardised. Phrygia’s early epigraphic record is very slim and more difficult to judge, but it is perhaps noteworthy that, while the very earliest surviving inscriptions from the Grand Tumulus at Gordion (perhaps late ninth century, see Brixhe 2004) are too short and lacking in diagnostic features to be helpful, a few slightly later ones from the

**Figure 8.1.** Cypriot Syllabic vase inscription from Kouklia-Paphos. Drawn by the author after O. Masson (1961/1983) 18c, p.187.

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⁵ Although Amathus was a primary locus of the use of the Eteocypriot language, it can be demonstrated that the local differences in the syllabary used there are just that – there was no separate ‘Eteocypriot syllabary’ (Egetmeyer 2010a).

⁶ Discussed in Steele 2018, 216–219. Some of the authors of these graffiti show further interest in writing by using the Greek alphabet, sometimes digraphically alongside the Cypriot syllabary.

same site (second half of the eighth century) display some but not all distinctive local traits. Note for example the sigmas of varying lengths (five-barred and three-barred) alongside the earliest attestation of the exclusively Phrygian supplemental sign \( \epsilon \) in G-105 and the three-barred epsilon in G-108 (numeration from Brixhe and Lejeune 1984; see Fig. 8.2); later inscriptions from the same site are strongly characterised by the appearance of multi-barred sigmas and epsilons (almost always four-barred or more, with sigmas sometimes having as many as ten bars).

In perhaps some (or more probably all) these areas, fixed forms of local scripts did not yet seem to exist in the eighth–seventh centuries BC, while from the seventh–sixth centuries onwards the local scripts had undergone or begun to undergo a process of standardisation. It could be argued tentatively that, across the central-eastern half of the Mediterranean, very similar processes were affecting developments in writing in several areas. Whether the scripts in question were related to each other (Greek, Italic, Phrygian alphabets) or not (Cypriot syllabaries), it seems that the seventh century was the crucial period during which these writing systems moved away from experimentation and fluctuation and towards standardisation and fixedness. Changes in writing must have been linked with other kinds of social change, potentially including experimentation and fluctuation and towards standardisation and fixedness. Changes in regionalisation and the Greek alphabet

Regionalisation and the Greek alphabet

As has already been pointed out above and in previous scholarship, the development of regional Greek alphabets associated with local epigraphic practice was closely related to the development of regional political structures and associated perceptions of ethnic boundaries (see especially Luraghi 2010; Johnston 2012). This was reflected in a strong attachment to the features of regional alphabets (surfacing in the faithful reproduction of these features in inscriptions) and in a very clear awareness of the existence of and differences between regional alphabets (evident most clearly in an inscription like the digraphic Phanodikos stele, or in the efforts of an author from

one region to write in the alphabet of a different region; discussed further in Luraghi 2010, 76–83). As we have just noted, this looks quite similar to the situation that grew up in Cyprus, if across a much wider geographical range, and the processes of regional standardisation appear to have taken place on a similar timescale in both areas. However, one key difference remains, namely that alphabetic writing was a new acquisition in Greece, while in Cyprus syllabic writing was part of an unbroken tradition of literacy originating in the Late Bronze Age and developing over time to suit changing political, social and linguistic needs. This inevitably raises the question of the starting point for the Greek alphabets: what was the situation before regional alphabets acquired their fixed forms? And as we have already seen, this is not a question we can answer definitively based on surviving evidence.

There are, however, indications that early forms of Greek alphabet could have featured some key differences from later incarnations. Surviving Greek alphabetic inscriptions from the eighth century BC are relatively rare and are often short texts, making it difficult to extrapolate a full set of features for the alphabet with which the author of such a text was familiar. This is an important point because an author of a relatively complex text must have been working from knowledge of a whole repertoire of signs, not only the ones needed for the current inscription. Abecedaria could potentially help with this problem by illustrating the perceived repertoire of an alphabet as it was learned, but such inscriptions are very sparsely attested in Greece in the period of interest, and when they do occur they preserve only small portions of the alphabetic sequence, usually the beginning (which could, conversely, suggest a limited degree of literacy in those cases).

The earliest surviving complete abecedaria (labelled variously by scholars as Greek or Etruscan) are found in the Italian peninsula and date to the seventh century BC, such as the one written on a cockerel-shaped vase from Viterbo (detail in Fig. 8.3; Buonamici 1932, 103; Pandolfini and Prosdocimi 1990, 22) and an ivory replica of a writing tablet from Marsiliana (Buonamici 1932, 101; Pandolfini and Prosdocimi 1990, 18). What is striking about these abecedaria is that they contain a larger repertoire of letters than any one of the regional Greek alphabets is thought to have

8 Note that in the cockerel inscription, the sigma is repeated in the place of chi (which is in its correct place in the Marsiliana abecedarium). This could potentially reflect confusion over the sibilant signs.
contained, notably with more sibilants: they have both sigma and san (individual Greek alphabets have only one or the other of these two signs) and they have xi as well as an X-shaped chi sign that may be assumed to have the value /ks/ in common with the red Greek alphabets and the ones that developed for local languages in Italy.9 By Etruscan standards, this is not over-representation because the Etruscan phonological inventory simply contained more sibilants and had a use for more signs. But what these abecedaria show, whether you think of them as Greek or Etruscan, is that there once existed at least conceptually an alphabet that contained not only the full set of sibilant signs borrowed from the Phoenician alphabet, in their correct order in the alphabetic sequence, but also the full set of innovating vowel signs that mark out Greek/Etruscan/Phrygian from the West Semitic alphabets,10 as well as the new supplemental letters chi, phi and psi. In other words, this is a system that occupies an important position in the development of alphabetic writing from the Phoenician to the Greek (and Etruscan) scripts. This version of an abecedarium – even though the mentioned attestations of it do not surface until the early seventh century BC must reflect a stage in alphabetic development that post-dates certain Greek innovations (the pan-Greek assignment of a set of vocalic signs/values, also shared by the Italic and Phrygian alphabets, as well as the introduction of supplemental letters at the end of the sequence) but pre-dates the individual choices of the regional Greek alphabets to reduce the number of sibilants and assign certain values to them.

The above line of reasoning further suggests a chronology for the development of the regional alphabets that involves an early stage where the innovations of the vowel and supplemental signs were made, followed by a later stage (or stages) involving reduction of the sign inventory for use in the regional alphabets. Attempts to reconstruct the latter stage(s), it should be noted, have to be based predominantly on usage because of the scarcity of early Greek abecedaria (the only near-complete Greek abecedarium of comparable age, the sixth-century BC Samos abecedarium, demonstrates the reduced number of sibilant signs as well as another newer innovation, the letter omega). As many have noted before, it would be entirely possible for a conceptual abecedarium to include ‘dead’ letters that are not currently used in local writing, as indeed seems to be the case for the earliest Etruscan abecedarium before the sign sequence was reduced to reflect the non-use of signs for voiced stops, phonemes that do not exist in Etruscan. The same could evidently be the case for the earliest manifestations of the regional Greek alphabets, namely the availability of a sign repertoire that includes a larger number of signs than were ever used in the region’s inscriptions. We should note, however, that the evidence as it stands does not preserve such a phenomenon: in fact, as far as the sibilants are concerned, each regional alphabet once it is attested seems already to have made its choice about whether to use sigma or san for the phoneme /s/. At this point it is helpful to return to the question of the nature of the evidence, and to explore the development of the features of regional alphabets through a case study.

Crete: a case study for regional standardisation in writing

This paper starts from a working hypothesis that the regional Greek alphabets are the result of local processes of standardisation, and that these processes are (or at least can be) closely related to the development of local social and political structures, especially ones that involve public writing and so provide a context in which there is some pressure for the local writing system to be consistent across multiple texts. So rather than seeing regional differences as stemming from the original process of transmission of alphabetic writing, as is often implicitly or explicitly assumed (see for instance Jeffery and Johnston 1990, 40–42), here the differences are viewed as largely symptomatic of a wider cultural phenomenon, namely the development of distinct local practices and political/civic institutions in different Greek-speaking areas. Crete has been chosen as an island that presents some advantages as a test case for such a hypothesis, principally in the attestation of a reasonable corpus of inscriptions dated to the eighth–sixth centuries BC, which includes a number of official texts in the form of legal codes, the latter displayed in public, usually religious, spaces. Where possible, the late seventh century is considered the cut-off date for inscriptions included in this survey, although inevitably it is sometimes necessary to stray into slightly later material (however, see the brief discussion below on the matter of dating Cretan inscriptions).

In considering the standardisation of the Cretan alphabet, the repertoire of alphabetic signs and sign shapes is of principal but not exclusive interest. Standardisation of script is ultimately a usage-based phenomenon, whatever its context, and surfaces not only in signs and shapes but also in orthography, punctuation, formatting features and layout of text. That a standard form of writing might have been desirable or expedient in Archaic Crete is also suggested indirectly by the known existence of a high status official scribe, poinikastas, attested in an inscription on a bronze mitra that probably originated from late sixth-century Lyttos (Jeffery and Morpurgo Davies 1970). This piece of evidence may not be directly applicable to the earlier situation in any of the Cretan poleis, but is nevertheless strongly suggestive of official importance attached to writing in a local political context, which may indeed have had earlier precedents or at least may have been motivated by a longstanding atmosphere in which the keeping of written records was important enough to require a specialist official. It should further be emphasised that writing habits in Archaic Crete were strongly regionalised. This does not mean that different areas of Crete were not using essentially the same alphabet in terms of the majority of signs and their values, but we should be alert to the fact that one poleis

9 Also relevant is a fragment suggested to be a partial abecedarium found at Eretria, preserving what may be a ‘boxed’ xi like the ones in the Etruscan abecedarium, in a sequence pi-omicron-xi from right-to-left (Kenzelmann Pfyffer et al. 2005, 60, no. 3). Eretria, as home of a red Euboean alphabet, did not use xi and used the X-shaped chi sign with the value /ks/.

10 Of the vowel letters, four maintain their position in the alphabetic Phoenician alphabetic sequence while upsilon is added after the last Phoenician letter, tau/tau.
might use a different letter form from another or make other orthographic innovations (consider the regionalism apparent in attempts to render a long /o:/ phoneme: see Thompson 2006, 94–97), or that writing habits might vary significantly in different areas of the island (considered recently by Whitley forthcoming).

Recent scholarship has shown considerable interest in the question of literacy in the Cretan poleis – could citizens read and write, and were the monumental legal codes accessible to them or not? James Whitley (1997, 1998, forthcoming; also Stoddart and Whitley 1988) has argued strongly against widespread literacy in Crete, suggesting that evidence for personal/private inscriptions decreases as the legal inscriptions become more numerous going into the sixth century BC, potentially representing a restriction of literacy to those in an elite and/or scribal circle. There has been a backlash against such a view, with arguments from Paula Perlman (2002, 2004) and Zinon Papakonstantinou (2002) that Whitley underestimated the extent of literacy outside of the monumental/legal sphere, which is in fact represented by a small but important corpus of personal inscriptions on stone, pottery, bronze, etc. A significant factor, however, is the degree to which writing was ‘entangled’ with other social activities, such as religious practise and the symposium, and arguably it was considerably less so in Crete than in other literate areas of the Greek-speaking world (see Whitley 2017, 90–94). This debate is ongoing, and I do not intend to contribute to it in any significant way in this paper since it is of tangential importance to our immediate aims here. My intent is rather to shift the focus away from interpretive models that seek to reconstruct the extent of literacy or its social context and towards the evidence for the systemic development of the Cretan alphabet itself. We will return to the problem of interpretation later, and begin first with the alphabet as it appears in Crete’s early legal codes, which will then be compared with non-legal inscriptions.

The legal codes

The analysis of the present section would ideally be based on only the earliest surviving Cretan legal codes, with a view to observing the first attestations of monumental and official writing. A caveat is necessary from the outset, however, because these are texts that do not contain any internal reference to dates and that were found in circumstances that make them very difficult to date by any other means. Our dating of the inscriptions therefore relies almost completely on their palaeography, which itself already necessitates assumptions about what writing looks like at different chronological stages. In Anne Jeffery’s words (Jeffery and Johnston 1990, 311), ‘any attempt at precise dating of Cretan inscriptions before the fifth century is most uncertain, for we have only the letter-forms themselves on which to form a judgement, qualified by the knowledge (derived from the fifth-century material) that the Cretan alphabet was distinctly conservative in its retention of old forms and methods’. The circularity of basing any chronology of the development of the alphabet on material dated by palaeography is evident – but this is an issue that cannot be overstepped or circumvented. Perhaps the best progress that can be made is in attempts to establish regional chronologies for alphabetic developments in the individual Cretan poleis (e.g. Ikonomaki 2010), but for most sites this is of little help for the earliest legal codes, with the exceptions of Dreros and perhaps Gortyn. In spite of these chronological problems, there is a broad general consensus that the earliest legal codes (especially the earliest ones from Dreros) date to the mid–late seventh century BC.

In general, the sign shapes used in the earliest legal codes are quite homogeneous except for a few trends in which certain shapes seem to (provided our chronological assumptions are correct) develop over time. These are schematised in Table 8.1 (for signs reversible depending on direction of writing, both forms are given). Below the table, some brief comments are offered on each sign, drawn from an examination of each text; the comments inevitably are often similar to those of Jeffery (Jeffery and Johnston 1990, 308–309) but are tailored towards the present discussion. The survey was primarily conducted on a selection of inscriptions: the eight from Dreros (seven Greek, one Eteocretan) usually dated to the mid–late seventh century BC, and for comparison some further texts from Eleutherna (Greek), Eltynia (Greek), Gortyn (Greek) and Praisos (Eteocretan), all of which are considered more likely to be c. 600 or later.11 Although the Eteocretan texts cannot be read and so assessed in terms of content, they are included here alongside the Greek legal texts because of their similar monumentality.

The letter shapes are discussed in turn below (see Table 8.1 for illustration):

11 The Greek legal codes are collected in Gagarin and Perlman 2016 (Dreros 1–7, Eleutherna 1, Eltynia 1, Gortyn 1), with further references and some with drawings; the early Gortyn code is also published in IC (Guarducci 1935–1950) iv.1–40 with drawings and photographs. The Eteocretan inscriptions are collected in Duhoux 1982 (Dreros 1 and Praisos 1), with the available drawings and photographs included.
Table 8.1. Cretan alphabetic letter forms as found in the earlier law codes

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<td>Y</td>
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F: The hooked gamma either co-exists with the 'Phoenician'-oriented lambda (i.e. hook at the bottom) or appears in inscriptions where lambda is not attested. The gamma in the shape of an inverted chevron tends to co-exist with a lambda very similar in shape to the hooked gamma (lambda with hook at the top); since this form of lambda is usually assumed to be a later variant (given that the one with the hook at the bottom matches the Semitic donor script), this form of gamma is also usually assumed to be later.

Δ: Delta is in its standard form as known from most of the Greek alphabets.

E: The three horizontal bars tend to be sloped downwards in the direction of writing.

F: The digamma of many inscriptions assumed to be early is in the standard F-shape with usually downward-sloping horizontal bars. A slightly different shape in which the lower of the two bars emanates from the upper corner (a shape that can be either curved or angular) is attested at Gortyn but probably not before the sixth century. The latter has been cited as a particularly archaic feature because of its similarity to forms of waw in cursive Semitic inscriptions such as the Samaritan sherds; however, just as with the single-bowed beta (see above), it is not found in what are assumed to be the earliest inscriptions.

H: The eta enclosed at the top and bottom is ubiquitous, and where its value can be judged it always represents a long vowel, never the aspirate. The horizontal lines can sometimes be sloped, and a form quite similar to the common form of Phoenician heth appears in the Dreros legal code that is assumed to be the earliest text.

Θ: The central cross can be either straight or diagonal.

I: The characteristic S-shaped iota is present from the earliest inscriptions, and the only noticeable variation is to be found is in the depth of its curves, which are usually quite deep as pictured in the table but can occasionally be more shallow. Like crooked iota found elsewhere among the Greek regional alphabets, this form again has been seen as closer to forms found in the Semitic ancestor script (especially cursive ones); the difference between this iota on the one hand, and the beta and 'cursive' digamma discussed above on the other, is that the S-shaped iota is ubiquitous from the earliest inscriptions.

It can be mentioned here that one of the Eteocretan inscriptions (the one assumed to be earliest based on letter forms, etc), Dreros 1 (see Duhoux 1982, 27-53, for discussion) features a sign that looks very similar to a standard Phoenician yod. However, it is an isolated example and is not even fully in line with the main text of the rest of the inscription, making it very difficult to integrate into any argument about the development of the Cretan alphabet.

K: Kappa appears in a standard form as known from many other Greek alphabets.

Λ: Lambda with the hook at the bottom, matching the Phoenician orientation of the sign, is seen as the earlier form and so one of the principal diagnostic features in deciding the relative chronology of the Cretan alphabetic inscriptions. However, the lambda with the hook at the top does appear in one of the inscriptions from Dreros (Dreros 4, suggested to be slightly later on account of the forms of gamma, lambda and upsilon in Gagarin and Perlman 2016, 213). As noted above, the form of gamma used in a given inscription is apparently determined by the form of lambda used – a problem by no means unique to the Cretan regional alphabet.

M (mu): The tail of the mu can be similar in length to the other lines or can be considerably longer, but it always of ‘five-barred’ type (as is typical of an alphabet that uses san not sigma for the sibilant). The form with the longer stem is usually assumed to be earlier given its relative similarity, again, to forms of the related Phoenician letter.

N: As with mu, the tail of the nu can be longer or shorter and similar remarks can be made concerning its similarity to Phoenician.

O: The size of omicron relative to other letters can vary, sometimes similar in size but quite often smaller; when it is smaller, it is often raised to the central-upper part of the writing space.

Π: Pi has a straight vertical and curved open hook in the earlier inscriptions. Sometimes the hook can be more angular than curved, but the length of the hooked section generally prevents confusion with gamma. The lunate pi is a later development, assumed to be later sixth-fifth century.

M (san): Although often symmetrical, san can sometimes have an elongated stem (hence the particular importance of the five-barred mu to avoid confusion).

Q: Qoppa is absent from the Dreros inscriptions but is present in sixth-century inscriptions from Gortyn and other sites in a form where the central stem extends to
The early legal inscriptions in Greek use only the set of letters laid out above. Some other letter forms found in Eteocretan texts may be relevant to the development of alphabetic writing on Crete, but as isolated occurrences are very difficult to take account of in our present survey: the yod-like letter and phi/qoppa-like letter have been mentioned above, to which can be added the sign in the form of a vertical line with opposing hooks at the top and bottom (J), suggested tentatively by Jeffery to be related to an identical form found in Sikinos with the chi value (Jeffery 1949). Whatever the explanation for these letters, they have little bearing on the following comparison of other types of inscription with writing as found in the early legal texts.

A final point must also be made that letter shapes are not the only features of early Cretan writing that should be included in the present survey. Also significant are the layout and punctuation of text, as is clear already in Jeffery’s work (e.g. Jeffery and Johnston 1990, 308–311, where word dividers and methods used to mark paragraphs are discussed alongside letter forms). Firstly, the direction of writing seems to have been a relatively fixed feature of the Cretan legal inscriptions from the earliest texts onwards, with boustrophedon (beginning from a sinistroverse line, i.e. right-to-left, and moving on to alternate in direction) as standard. It is clear that this method of writing and reading inscriptions was an important standardised feature from its relationship with the marking of new paragraphs in these texts: a new paragraph would begin sinistroverse, whatever the direction of the previous line, to aid the reader by marking clearly the beginning of a new topic. The crucial point here is that the development of this system of marking new paragraphs only makes sense in a context where writers and readers already had well developed expectations of a particular direction of writing being used, indicating in turn that the paragraphing system went hand-in-hand with standardised usage of boustrophedon writing. The paragraphing system is already present in Dreros 1 in (probably) the mid-seventh century; however, this was not the only means of attempting to distinguish passages of text (cf. the angular figure-of-eight shape used already once in the earliest inscription from Dreros and in scattered attestations at different sites as a paragraph marker), and it fell out of use by the fifth century.

Another formatting feature worthy of note is the word divider in the form of a long straight line, which appears in many of the earlier legal inscriptions (including the earliest inscription from Dreros) and, just like a number of letter shapes (discussed individually above), has been identified as closer to Phoenician usage (where word dividers are more common, particularly in comparison with their near total absence from early Greek alphabetic inscriptions). The presence of a straight divider in conjunction with a curved/’crooked’ iota has often been noted as significant, and the straight divider has even been suggested to have prompted the development of the upright/straight iota as found in some other regional alphabets (e.g. Janko 2015, 8).

Standardised direction of writing, paragraph marking and word division can all be thought of as aids to the reader (potentially to the writer too) to help follow the text, and to identify particular clauses that may have needed to be referred to in legal queries or disputes. Whether this was done by a very small or a larger group of people is not easy to recover, but however wide the writership or readership, the development of writing/reading aids must relate closely to attempts to lay out these legal texts in a systematic and accessible way. Such aids could be considered important even within a situation of very restricted literacy; to take just one example, something similar can be found in the professional writing of ‘scribes’ working in the Mycenaean bureaucratic centres, probably writing their clay tablets for a very limited audience but nevertheless with a very standardised set of formatting practices. What remains to be seen is whether early Cretan writing outside of the legal codes looks similar to or different from what has been laid out above.

Other early inscriptions

In a quite recently published survey of writing in ancient Crete, mainly focused on the seventh century BC, Alan Johnston draws a distinction between the sorts of inscription discussed in the previous section (i.e. inscriptions on stone, often legal in nature) and ones that he terms ‘casual inscriptions’ (Johnston 2013). It is the latter category that concerns us here, although the term ‘casual’ could perhaps be misleading: the texts in this section are written on materials/objects other than stone blocks, but the degree of care with which they were executed varies from case to case. The most significant unifying feature of this group of texts is that they are not issued by/or a Cretan polity, as the legal codes were, and are thus lacking in an obvious political or centralised administrative motivation for their creation. We are dealing here with inscriptions that came into being for other reasons, some of which are more easily categorised than others (e.g. ownership inscriptions vs. the elusive short texts of the Kommos sherds). The groups and individual texts discussed below are ones chosen for their certain or probable early date, i.e. ones that have a reasonable chance of dating before or to the mid-seventh century BC where possible (bearing in mind the problems with dating Cretan inscriptions as mentioned above).
A) Sherds with graffiti, Kommos

A number of pottery sherds from Kommos are notable for their early date (some belonging to the late eighth-seventh centuries) but also crucially for the means by which their dating was determined, namely quite a secure stratigraphic sequence and a good understanding of their immediate archaeological context. The sherds can be quite neatly divided between cups made of local wares (most with sequences of two or more letters though none is longer than nine letters) and imported amphorae (many of which have single signs or marks rather than longer texts). Dividing them up by inscription type and/or supposed subject matter is more difficult because of their brevity, but in their primary publication the editors categorise them into ‘non-commercial: mainly proprietary’ and ‘probably commercial’ based on observation and interpretation of their graphic features and content (see Csapo et al. 2000, 101–105 on their categorisation and 108–125 for the catalogue; all numbering in the present subsection refers to this catalogue).

What concerns us here is the script in which the sherd inscriptions are written – or we should perhaps say scripts in the plural, because the presence of features from multiple regional alphabets has been suggested. The inscriptions on imported wares can in most cases be dismissed as irrelevant to the present investigation (especially ones inscribed before firing and so at their place of origin), although there is one important exception (see the next paragraph). The local wares, on the other hand, should give considerable potential for observing what Cretan writing may have looked like in this period – or so one might think. In fact, as a collection the Kommos sherd inscriptions are decidedly, and perhaps surprisingly, unCretan-looking.

Let’s begin with direction of writing. All of the texts that can be diagnosed for direction of writing read from left to right, which is the opposite of what we would expect in a Cretan alphabetic single-line inscription, except for one (no. 22, South Cretan ware, not late seventh century). We can also consider here the two-line inscription no. 30 (Fig. 8.4, top left), written on a sherd from a large vessel that was probably a Cycladic import (possibly an ostracon but not a complete one), which is in so-called ‘false boustrophedon’: the editors conclude that one part is the beginning of a sinistroverse line (right-to-left), and if it is turned upside down then part of a dextroverse line (left-to-right) can be read. They also argue that

![Figure 8.4. Four of the Kommos sherd inscriptions. Top left: no. 30. Top right: no. 8. Bottom left: no. 19. Bottom right: no. 27. Drawn by the author after the drawings and photographs accompanying Csapo, Johnston and Geagan (2000).](image)

...
seventh century; Fig. 8.4, bottom left) and no. 27 (South Cretan ware, seventh century; Fig. 8.4, bottom right), both of which again read from left to right; the editors suggest authors from Central Greece for these texts, with Boeotia cited as a likely candidate for both but especially for no. 27.

The Kommos inscriptions are something of an epigraphic puzzle. The presence of some non-local Greek speakers at this trading emporium is an altogether likely hypothesis, and is supported by the number of sherds of non-local wares, a number of which bear marks or inscriptions. Indeed, in this respect Kommos looks not so different from other sites outside Crete where collections of early inscriptions have been found, for instance Eretria, Methoni and Mount Hyetemos. But the suggestion that non-local Greek speakers were writing inscriptions on locally made pots requires a further leap of faith, and we may wonder whether this assumption is sufficiently supported by the available evidence. Is it possible, for example, that a resident of Archaic Crete could have produced letter forms like straight iota and four-barred mu? Following the traditional model whereby sigma alphabets contain these features but san alphabets are unlikely to, we would have to say no; on the other hand, it must be admitted that there is no evidence whatsoever that anyone at Kommos was using the letter san at this time. This is not to say that letter forms better attested in other areas of the Greek-speaking world (and others that became features of other regional alphabets) played any role in the development of the Cretan alphabet as we know it from other, usually later, inscriptions. However, it is certainly possible that the existence of other letter forms and letter values – whether in isolation or as members of recognisable regional alphabets from elsewhere – could have been known to Cretans resident in Kommos and involved in commercial activities. And if there was no particular attachment to a local tradition of writing, there is no reason why a Cretan would not choose to write using letter forms/values (or indeed other features like left-to-right direction) that they had encountered, perhaps while in contact with Greek speakers from elsewhere. The Kommos case gives us good reason to reconsider the way we think about local and non-local writing in the earlier days of the Greek alphabet and its developing regional features.

B) Inscribed pithos, Phaistos

An eighth-century pithos with an incised ownership graffito, found at Phaistos, has often been cited as one of the earliest Cretan alphabetic inscriptions (Fig. 8.5). The dating of the text, however, is very difficult to secure given that the object was found in a considerably later second-century BC context (although this is not in itself surprising given that pithoi often seem to have survived in use for hundreds of years), and that the initial assumption that it was incised before firing on a pithos that by type should contain inscriptions.

In theory it might be possible to suggest that no. 19 could be reinterpreted as a non-Greek sequence adsai. However, comparison with the sequence in no. 27 (which otherwise has very similar letter forms) militates against this because it clearly includes the word ēmi with a four-barred mu.

C) Dolphin stone, Itanos

Although often assumed to be eighth–sixth century in date, the ‘dolphin’ inscription deeply incised onto a large piece of natural rock found at Itanos (Cape Sidero) is again very difficult to date accurately (Fig. 8.6). All but one of its signs are ones that are found in the Cretan alphabet, but none of them diagnostically so (the closest in the five-barred mu, but this is common to other regional alphabets, especially ones that use san for the sibilant). The use of phi (here in a tailless form) in fact contravenes Cretan-alphabetic orthography, by which etymological /pʰ/ is represented by πι because the dialect lacks this phoneme; phi is otherwise unattested in Cretan Greek alphabetic inscriptions (see further the previous section).

As with other similarly playful and decorative rupestral texts found at this location (see Guarducci, IC III.7.2–27), this inscription type looks rather similar to those from Thera. If the writing also diverges from what we might expect from a Cretan inscription, this may have nothing to do with the alphabet’s development (e.g. an early stage where phi was in use and other regional features had not yet developed).

Note that the cross-bar slopes in the wrong direction (backwards rather than forwards) in comparison with the usual shape encountered for example in the stone inscriptions. Cf. the comments in note 12 above.
8. The development of Greek alphabets

The development of the Greek alphabet is a topic of great interest to scholars. In the early inscriptions, such as those from Dero, the lettering is quite different from what we see in later inscriptions. For instance, the first letter, alpha, does not feature a sloping cross-bar, but alpha with a straight cross-bar is well attested in legal inscriptions other than the earliest ones from Dero. There is a hint of cursive ductus in the apparently deliberate ligature of lambda and iota; the iota is also particularly curled at the top (more so than is usual in stone-cut inscriptions).

What we have here looks like a text produced by an author altogether familiar with what a Cretan inscription is ‘supposed’ to look like, complete with formatting features as well as sign forms. But the inscription itself is of a completely different type to the stone inscriptions in which such writing is so well documented in this period. Rather, it is a personal text (perhaps one of ownership, depending on interpretation of the sequence), incised on a decorative ceramic object, which seems more in-keeping with uses of alphabetic writing around the Mediterranean in the Archaic period than most other inscriptions from Crete. Even so, the lettering and formatting of the text suggest familiarity with traditions of Cretan writing that are predominantly known to us from inscriptions on stone.

E) Inscriptions on bronze pieces of armour, Afrati

A particularly homogenous group of inscriptions on pieces of bronze armour (including helmets, cuirasses and mitrae), like the previously discussed item, shows a strong awareness of the standardised features of Cretan writing as witnessed in the early legal inscriptions. The dating of these pieces is, however, extremely subjective, and it is not at all certain that they should be dated in the seventh century, the sixth being an equally likely candidate (see further Hoffman’s comments in Hoffman and Raubitschek 1972, 41–46); we should also note that the inscriptions were added after the production of the armour, and perhaps some time later considering that the best interpretation of the pieces is as prizes or loot from war. The inscriptions are in Greek, although the names of their authors/dedicants are mixed, some Greek and others not (perhaps foreign or Eteocretan according to Raubitschek: Hoffman and Raubitschek 1972, 15).

Not only do these inscriptions adhere closely to the standard repertoire of the Cretan alphabet (e.g. alpha with sloping cross-bar, enclosed eta for long /ε/, S-shaped iota, five-barred mu, san for the sibilant, lunate pi), some also contain an innovation otherwise known only from stone inscriptions from Lyttos and the Spensithios decree (the latter on a piece of bronze shaped like a mitra, see Jeffery and Morpurgo Davis 1970): a long /o/ phoneme marked by a sign consisting of two concentric circles (see Thompson 1996, 94–97, on the phonological interpretation of this sign). Of the fourteen inscriptions, it is also notable that four are in boustrophedon (two of which are the helmet and mitra pair shown in Fig. 8.8) and two or three use the long divider. The aspect and ductus of the inscriptions differs somewhat from what we see in stone inscriptions because of palaeographic differences (being incised into the bronze with a sharp tool) and because they are arranged to fit around the armour’s artistic design. However, it is difficult to imagine that texts containing these graphic features could...
have been created without knowledge of a tradition of writing very close to the one evident in the production of official and legal inscriptions on stone and, in the case of the Spensithios Decree, also on bronze.

This survey has inevitably been selective, picking out five inscriptions or groups of inscriptions that are a) as close as possible to being mid-seventh century BC or earlier, given the many uncertainties over dating, and b) long enough to observe sets of features co-occurring rather than isolated ones. Two early short texts omitted from the discussion give very little to go on: a graffito on another aryballos from Knossos (eighth–earlier seventh century) reading ΓΑΡ, possibly preceded by a word divider (Coldstream et al. 1981, no. 117), and a quite deeply incised inscription on the back of a terracotta figurine from Praisos (seventh-century) reading ΔΟϘ? (last letter possibly a san but incomplete) that is often regarded to be an Eteocretan text (Guarducci, IC iII.8.11). A long graffito in ‘litterae inaequales’ on stone, found at Prinias, is also of potential interest (Guarducci, IC i.28.1): perhaps seventh century (but again very difficult to date), its text is surprisingly repetitive and has been suggested to be a practice text, indicative of ways in which literacy may have been acquired by individuals (see Perlman 2002, 196). The lettering looks homogeneous enough to be written in a single hand, and the sign forms conform well with those of the early legal inscriptions, although it consists of several lines of text reading from right to left, rather than being written in the accustomed boustrophedon. Finally, as with many areas of the ancient Mediterranean, it remains to point out that there may well have been other ‘non-official’ modes of writing on less durable materials that have not survived to us.

Concluding thoughts

It remains to pose the question of whether the survey of early Cretan alphabetic inscriptions in the previous section has potential to add anything useful to our understanding of the development first of the Cretan alphabet, and secondly of the Greek regional alphabets in general. We could categorise the inscriptions discussed into two sets: the ones that do not conform to the standardised Cretan alphabet known from the early legal codes (the inscriptions from A. Kommos and C. Itanos), and the ones that do to varying degrees (the inscriptions from B. Phaistos, D. Knossos and E. Afrati). The first remark to be made is that the Kommos sherds are the only ones that can be dated to the earlier seventh century with any degree of certainty. All the others are dated on quite unreliable criteria, with the exception of the aryballos from Knossos, though note that this object dates to the second rather than the first half of the seventh century. It is very difficult to be certain, from a chronological

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15 Guarducci wrongly attributes this inscription to Sitia, but it is more likely that it originates from the ‘Shrine at Vavelloi’ to the south of Praisos; I am indebted to James Whitley for this observation.
the core repertoire was quite consistent and is reflected in legal codes as well as a small number of ‘non-official’ inscriptions of the sixth–fifth centuries (on the latter, see Perlman 2002, 221–225). The early legal inscriptions provide a suitable forum in which such a standardisation process may have originated, motivated by both practical and visual concerns: the envisaged need to consult and refer back to the texts, combined with their cumulative visual impact as more clauses were added to the walls of public spaces. Exposure to these local practices of writing and their increasingly standardised sets of features must have exerted a sort of pressure on other types of writing, such that literate individuals had an impression of what local writing ought to look like. In other words, for Crete it may be possible to demonstrate a direct link between epigraphic habits and practices on the one hand, and the development of locally distinctive writing on the other.

A very similar phenomenon can be witnessed in the development of regional variants of Cypriot Syllabic writing around the seventh century BC onwards, as adduced above in the first section. There, the association of Cypriot Syllabic writing with local elites, and with state-issued political and religious inscriptions in public spaces, had a marked effect on the development of local variants of the Cypriot Syllabic script. The fixed features of the Paphian and Common syllabaries were not a matter of inheritance; rather they were choices that became standardised over time in response to usage and exposure. In other words, the development of Cypriot writing is closely interlinked with epigraphic practices and their social and political context. The development of the regional Greek alphabets took place on a larger scale, but I would suggest that the processes that motivated it were similar, and that this in turn should a) help us to explain anomalous or non-local looking forms in the earliest Greek alphabetic inscriptions, and b) cause us to look beyond overly simplistic ‘family tree’ based models of evolutionary script development. Despite the difficulties of the evidence, the earliest attestations of alphabetic writing in Crete provide a useful, if not ideal, setting to explore the hypothesis.

16 On the question of the standardisation of writing in Crete in the earlier Minoan period, focused on Linear A, see Steele 2017a.