

HENRY R. IMMERWAHR

ASPECTS OF LITERACY IN THE ATHENIAN CERAMICUS

This paper is the third in a series of articles that attempt to analyze the vase inscriptions gathered in my *Corpus of Attic Vase Inscriptions* (CAVI), much of which is now available in the data base of the Beazley Archive, with a view to determining what they can contribute to the understanding of the literacy of vase painters and potters, a subject already discussed in *Attic Script*¹ on the basis of a much smaller collection of examples. In the first paper, ‘Observations on Writing Practices in the Athenian Ceramicus’, I tried to show that the copying of certain meaningless or erroneous inscriptions from painter to painter suggested a lack of fully developed literacy. In the second, entitled, ‘Nonsense Inscriptions and Literacy’, I discussed the vexed problem of whether the writing of nonsense, which is extremely common, can be used to demonstrate that the painters using it were illiterate. In this paper I shall try to determine to what extent errors in sense inscriptions can signal lack of literacy.² The aim of the papers is to give some guide lines for assessing the reliability of these inscriptions as sources for the Attic dialect and to make it possible to decide which painters have the best chance of rendering pronunciation with relative accuracy and which are too uncertain in their writing ability to be used as sources.

I stipulate in the beginning that there are several stages of writing competence. The manner in which the alphabet was learned in antiquity can guide us in an understanding. The system used in schools to

Abbreviations: BF = black-figure, BG = black glaze, LM = Little Master, RF = red-figure, WG = white-ground. Bibliographical abbreviations are listed at the end of the article.

In addition to the usual epigraphical symbols the caret ^ is used to indicate a gap between letters, which is often caused by an intervening object in the design, but can also simply be a small blank space between letters. Pointed brackets <> mark omitted letters, round brackets () mark letters that are badly written or miswritten. (.) indicates an indistinct letter.

¹ H. R. Immerwahr, *Attic Script. A Survey* (1990), esp. 172ff.

² The first will appear in an epigraphical festschrift, the second is in *Kadmos* 45 (2006) 136–72.

teach pupils to learn to write is well known from writing exercises from the Hellenistic and Roman periods as well as from explicit statements by Dionysius of Halicarnassus (*De comp.* 245,5–255) and Quintilian (1.24ff.).³ A high antiquity of this process is made probable both by its simplicity and by very early Etruscan syllabic inscriptions that are likely to have their origin in Greek practice.⁴ Basically, the method consisted of first learning the names of the letters in their row, then their shapes, and finally the acrophonic principle. After that, exercises consisted of writing in groups of letters (συλλαβαί) which were based on the syllables of consonants and vowels. The simplest of these were the single consonant-plus-vowel (ba be bi, etc.; ga ge gi, etc.), but they were followed by exercises of more complex forms beginning with consonant + vowel + consonant (bar ber bir, etc.). Still more complex forms are attested in papyri and late literature; they took the form of reversing and confounding the sequence of letters of the alphabet and of making up ghost words that were difficult to write or read. It is not clear to me how far back this last development can be traced; the modern term for it is χαλινός, “bridle” or “bit”, after a passage of Quintilian (*Inst.* 1.37). Quintilian however (who is after all interested in training orators) speaks of words and verses difficult to pronounce that must be recited rapidly; he is not referring to meaningless combinations of letters that were hard to read.⁵

The question in judging the inscriptions on vases is how far in the process of learning to write a particular vase painter had progressed when he wrote on his vases. Of course, totally unlettered painters or potters will have left no trace of writing. It is remarkable, however, how many painters are able to reproduce letters of some kind. Errors may arise when a painter is not certain of the pronunciation of the letter shapes he has learned. There is evidence of painters who knew their alphabet only imperfectly, and these are usually called illiterate in the literature. Characteristically they will mistake one letter for another, or be uncertain about certain shapes or meanings. They are

³ M. P. Nilsson, *Die Übernahme und Entwicklung des Alphabets durch die Griechen* (Kgl. Danske Videnskabernes Selskab. Hist. fil. Meddelelser I (1918) 6f.). See also A. Schmitt, *Der Buchstabe H im Griechischen* (*Orbis Antiquus* 6, Münster 1952) 6. E. Ziebarth, *Aus der antiken Schule* (1913) 3ff. (“Silbenreihen”). R. Wachter, *BA-BE-BH-BI-BO-BY-BΩ: zur Geschichte des elementaren Schreibunterrichts bei den Griechen, Etruskern und Venetern*, *ZPE* 146 (2004) 61–74 has a full discussion and bibliography of the whole process.

⁴ Wachter (above, n. 3) 66.

⁵ See LSJ, *Rev. Suppl.* (1996), s.v. χαλινός. Wachter (above, n. 3) 64–66 applies the term to writing exercises that were at the same time sounded out by the pupils.

easy to recognize and I have given a list of examples in Kadmos 45 (2006), appendix 1. But they are a distinct minority and it is interesting to observe that the majority of painters (even when writing nonsense inscriptions) are more or less in possession of the alphabet. Many painters had progressed beyond the elementary knowledge of alphabetic writing, and it is these people I will study in this paper, for among them are great differences in competence. Dionysius is aware that many, having learned the alphabet properly, at first experience difficulty in writing, or as he puts it, they write κατὰ συλλαβὴν καὶ βραδέως τὸ πρῶτον. At this stage, some writers may be able to reproduce only certain common words (as some people can write only their names), for example they may write signatures or *kalos*-names under instruction. The next stage is that of oral literacy, i.e. a painter is able to reproduce what he has heard (or the mental image of what he has heard). This still is not complete literacy, for in order to reach this level he must know what the standard spelling is, especially if that does not conform exactly to the sound image he has in his head. So if he hears *Arianne* he should know that the correct spelling is *Ariadne* or *Ariagne*.

– 1 –

The question of the existence of standards and of who had the authority to impose them in sixth- and fifth-century Athens is a difficult one. The style of the inscriptions on public documents is certainly remarkably uniform, at least from the second quarter of the fifth century on, after the reforms of Ephialtes. The standard set up by the state had an influence on, but did not altogether control, the rules for inscribing other inscriptions. It is well known that the rules for private inscriptions, such as dedications, were less strict. For example, Ionic letters were used earlier here than in official documents.⁶ Furthermore, there are some indications that vase painters at times follow rules (or practices) different from those valid for stone inscriptions.⁷

⁶ See Attic Script 179ff.

⁷ Examples (as cited in Attic Script) are: the use of dotted theta which is standard on vases from 570–560 on (with exceptions). Crossed theta is standard longer on stone and in graffiti. The so-called syllabic heta, i.e. the omission of either long or short e after heta, is common on vases in the fifth century. A third example is J.-L. Perpillou's demonstration in REG 105 (1992) 559–60 that some vases show the use of voiceless stops for voiced and aspirated stops. On the other hand, there are also indications that vase painters are influenced by the stone script, e.g. by stoichedon in the fifth century.

Since the majority of vase inscriptions fall into definite patterns or formulae (as pointed out in my article in *Acta of the Fifth Epigraphic Congress of Greek and Latin Epigraphy*, Cambridge 1967, 54) it is always possible that a well-written formula is either copied or learned by rote and not freely written from the mental image of something heard. This applies to *καλός* and *ho παῖς καλός* as well as to signatures and *kalos*-names; even name labels may be copied from another vase. No doubt the majority of these instances are good and original writing, but how do we know that all are? This is a particular problem for linguists, for as soon as a linguistic explanation is proposed it is usually based on the assumption that the word in question is written as heard.

The best evidence for estimating writing ability are therefore the so-called non-formulaic inscriptions, by which I mean inscriptions that are unique to a specific situation or scene, frequently consisting of spoken words or conversations. In observing the spelling of such inscriptions, we can measure how close it comes to rendering spoken language. A good example are two BF plaques showing humans in vintage scenes (CAVI 1190, Athens, Acr. i, 2560+, and 2507, Berlin, Praehist. Museum [for both see Beazley, *AJA* 39 (1935) 477/5]), with discussions among the characters showing progress in the vintage and anticipation of drinking: (1) *ἔδῃ καν(ῆ) πλέα. – μετὰ καγὼ. – καγὼ τ[ι] πίομαι. – ἐκφεφύο[---]. – ἔτι τι vac.1 π(ί)ει vac.?,* spoken by five different persons on the Acropolis fragments. (2) *Ἀτ(τ)ικὰ δὲ πιόμεθα. – Φιλὸ πίνιν*, in two lines, hence probably spoken by two persons on the Berlin fragment. Here the forms *καγὼ*, *φεφύο...* and *πίνιν*⁸ give the impression of reproducing informal talk.

The oral component in these inscriptions is also demonstrated by the frequent citations of songs, mainly of the kind sung at symposia. These have often been cited, and I give only a few examples:

- 778: Athens, N.M. 1357: *ὃ παίδων κάλλιστε*. Cf. Theognis 1365: *ὦ παίδων κάλλιστε καὶ ἡμεροέστατε πάντων ...*
 3252: Copenhagen, NM inv. 13,365: *[--- π]ενίῃς*. Cf. Theognis 1129ff.: *ἐμπίομαι πενίης θυμοφθόρου οὐ μελεδαίνων ...*
 3448: Erlangen, University 454+: *εἶμι κο[μά]ζον ὑπ' αὐ(λ)οῖς*. Or: *ὑπ' αὐ(λ)ετῆρος ἀείδειν*.
 5333: Munich 2646: *οὐ δύναμ' οὐ, retr.* Cf. Theognis 939f.: *οὐ δύναμαι φωνῇ λίγ' ἀειδέμεν ὥσπερ ἀηδών· | καὶ γὰρ τὴν*

⁸ *π(ί)ει* is Abbreviated Writing, for which see below. This is entirely a matter of spelling rather than pronunciation.

προτέρην νύκτ' ἐπὶ κῶμον ἔβην. The text differs slightly from the ms. tradition and is written as sung rather than in *scriptio plena*.

Since these are represented as songs delivered at the symposium or in the komos, they are clearly not copied from books but remembered orally. It is obvious from the inscriptions on vases used in the symposium that the vase painters were very familiar with it.

The situation is somewhat different for the inscriptions on book rolls as depicted on vases. They are intended to give the illusion of real book rolls, but are the inscriptions really copied from books?⁹ The truth is that among the numerous depictions of book rolls only a limited number are inscribed, and among them many have nonsense or badly miswritten inscriptions. As for the representation of text, a number of attempts result in unclear citations, as e.g. on the famous Sappho vase, 764, Athens, N.M. 1260, or the Douris School cup, 2330, Berlin 2285.¹⁰ A rare attempt at the rendition of a book is 5025, Malibu 86.AE.324, which Beazley aptly called a forerunner of Hyginus¹¹: $\text{hoi h\acute{a}|\mu' \text{'E}\rho\alpha\kappa|\lambda\acute{\epsilon}\epsilon\iota\text{' } vac. | \text{'I}\acute{o}\lambda\epsilon\acute{o}(\zeta)}$ ¹²; on a RF pyxis, 761, Athens, N.M. 1241, the painter dispensed with letters altogether and arranged a pattern of white dots to simulate columns of a manuscript.

However, the principal evidence for the problems vase painters had with book rolls are the rolls which have misunderstood or meaningless inscriptions. Totally miswritten, rather than nonsense, is 2373, Berlin 2388: $\alpha\zeta\iota\omega^{\wedge}\lambda\iota\omicron | \mu\nu\sigma\sigma(\alpha)^{\wedge} | \lambda\omicron\iota\lambda\upsilon\sigma^{\wedge}$ where [--] $\mu\nu\sigma\sigma\alpha$ seems to

⁹ For book rolls see Attic Script 99 and note 6, with references to my earlier articles and to Pöhlmann.

¹⁰ The text of the first is: on the rolled up parts: $\acute{\epsilon}\pi\epsilon\alpha$ and $\pi\tau\epsilon\rho\acute{o}\epsilon(\nu)\tau\alpha$. On the sheet of the roll: $\theta\epsilon\omicron\iota. \eta\epsilon\rho\iota|\omega\nu vac. | \acute{\epsilon}\pi\epsilon|\omega\nu v. | \acute{\alpha}\rho\chi|\omicron\mu|\alpha\iota A|I\acute{N}\Lambda|N\tau|T\iota|N$. The text of the second is $\text{Μοῖσά μοι } vac. | \acute{\alpha}(\nu)\phi\iota \Sigma\acute{\alpha}\mu\alpha\nu\delta\rho\omicron\nu | \acute{\epsilon}\upsilon(\rho)\omega\nu \acute{\alpha}\rho\chi\omicron\mu\alpha\iota | \acute{\alpha}\epsilon\iota\{\nu\}\delta\acute{\epsilon}\nu vac.$ F. Chamoux, RPh 44 (1970) 7–10 has attempted to give a unified text by reading $\text{Μοῖσά μοι } \acute{\alpha}(\nu)\phi\iota \Sigma\acute{\alpha}\mu\alpha\nu\delta\rho\omicron\nu \langle\acute{\epsilon}\phi\rangle\epsilon\upsilon\rho' \acute{\omega}\nu \acute{\alpha}\rho\chi\omicron\mu\alpha\iota \acute{\alpha}\epsilon\iota\{\nu\}\delta\epsilon(\iota)\nu$. This is ingenious but it also assumes a major error and, what is more important, it does not take account of the way the lines are written: Μοῖσά μοι is in larger letters and is followed by a vacat, while the rest is in smaller letters which are more crowded in order to achieve coincidence of word end and line end. Hence I believe the original reading is probably the correct one, and the hexameter is made up of two snatches of poetry (so, apparently, also Beazley, AJA 52 (1948) 337) which should not be combined as one text.

¹¹ ARV² 1670/4 *bis*.

¹² It is the beginning of a list, rendered in stoichedon style. Whether books were actually written in this style is however very uncertain. Perhaps this is an embellishment. There was no room for the final sigma.

recall a real word like *ἡμῶσα* (or *μοῦσα*?). On the other hand, 2394, Berlin 2549: *γανμ(α)ν | (α)αγγνθ*, appears to be pure nonsense.¹³ Thus the inscriptions on book rolls show a certain familiarity with the written word, but they also point to the difficulties vase painters had with it. On the whole, non-formulaic inscriptions point to greater familiarity with the spoken word rather than the book. This is especially true in the early period – the sixth century and the early fifth –, for in the later fifth century a certain regularity takes hold of vase inscriptions, as it does for all inscriptions.

– 2 –

We turn now to the evidence that is indicative of the difficulties experienced by vase painters who are not strictly illiterate. Here it is unfortunate that examples of elementary writing exercises in archaic Athens appear to be very scanty. 1634, Athens, N.M. Acr. ii, 1438, cited below on p. 160 and n. 19, is too uncertain to be useful. Alphabet rows written on pot sherds, of which a number have been found in the Athenian Agora,¹⁴ are however likely to have been writing exercises, especially since a number of them are written rather poorly, and sometimes inaccurately. Note, e.g., CAVI 360, Agora P 6074 + 3272 (Lang A2 and pl. 1 (dr.), sixth century), which starts off well on 6074 with the letters alpha through heta¹⁵, but has also an erroneous series *αβγε*; 3272 (poorly preserved) seems to have *θικλ* and then in a second line the letters *(ρ)σ*, with rho reversed. Some of the alphabets are accompanied by groups of meaningless letters (see Lang A5 and A6), which perhaps bear some resemblance to the meaningless combinations used in later Greek writing exercises. A writing exercise is probably found on a fragment of a seventh-century pot from the sanctuary of Zeus on Mt. Hymettus that shows the alphabet in two lines (*αβγδε[–] | αβγδε[–]*), with the first line probably written by the teacher, the second by a pupil, as M. Langdon has suggested.¹⁶ The frequent appearance of writing tablets on vases, often in school scenes, do of course imply writing by students and

¹³ Other examples of meaningless inscriptions: 4525, London E 190 (dots arranged roughly stichedon). 4529, London E 209 (imitation letters).

¹⁴ M. Lang, *Graffiti and Dipinti* (The Athenian Agora xxi, 1976) 6–7, A1–A11.

¹⁵ I read an iota after the heta and assumed that theta had been omitted by error; this does not agree with Lang's theta on the other fragment, which is in fact very doubtful as are other letters on that fragment.

¹⁶ CAVI 177a, probably in the National Museum in Athens. M. Langdon, *Hesperia* suppl. 16 (1976) 17/20, fig. 7 (dr. of fr. with inscriptions), pl. 4.

some may be thought of as writing exercises, but there is no certain way of isolating them from literary exercises. However, 1995, Basel, Antikenmuseum BS 465, a RF cup by Douris that shows a teacher contemplating a tablet while his pupil looks at another, may be a writing exercise class as M. Robertson has intimated.¹⁷

Thus we are reduced to the observation of practices that seem to testify to a lack of fluency with the alphabet by writers who are not technically illiterate. The first of these is the writing in groups of letters whether they are true syllables or not. While the existence of figures in the decorated field naturally forces painters to write in such groups, there are cases where the letters are grouped without any existing interference. It is true that sometimes one finds that whole words are very slightly separated, although word separation is not a standard feature of ancient writing, thus showing that the writer was combining his letters properly into word groups.¹⁸

More significant, however, is writing in groups of letters without regard to word separation and without the interference of the figured decoration:

649: Athens, Agora P 24,950. Fr. of LM cup. Unattributed. 550–40.

[--- ἐπ]οί^εσ^εν.

1997: Basel, Antikenmuseum BS 472. RF cup. Aollodoros (Schefold). 1/4 5.

Int.: above the figure, in an irregular up-and-down curve:

Πάμμ^αχος^ακαλός.

The same spacing on 1996, Basel, NS 471, also by Apollodoros, also *Pammachos kalos*.

2101: Basel Market (M.M.). BF lip cup. Unattributed. 3/4 6.

Handle zone: nonsense: 15 imitation letters. B: probably similar.

¹⁷ M. Robertson, *The Art of Vase-painting in Classical Athens* (1992) 111, fig. 109: the teacher is considering what the boy has written.

¹⁸ I give a short list, with a caret indicating the (slight) separation:

1985: Basel, Antikenmuseum BS 439. RF cup. Onesimos. Παναίτιος^ακαλός.

2428: Berlin 4039. RF cup. Probably Salting Painter. ho παῖς^ακαλός.

2721: Boston 01.8122. RF alabastron. Aischines Painter. Αἰσχίνης^ακαλός.

3345: Once Dallas, TX, Nelson Bunker Hunt 5. RF cup. Euphronios.

Εὐφρόνιος^αἔγραψεν].

4732: London 1920.6–13.1. RF cup. Euergides Painter. Εὐεργίδης^αἐποιᾷ.

7601: Tarentum, Museo Nazionale I.G. 4435. BF Droop cup. Unattributed.

Ἀντίδορος^αἔπόε.

The inscription on A is in groups of two letters except for the last group that has three.

2458: Berlin inv. 3252. BF lekythos. Athena Painter. Early 5.

Nonsense inscriptions: the longest is in groups of 2 letters:
ο(σ)^(π)ο^εκ^ο(σ), retr.

4320: London B 421. BF lip cup. Tleson Painter. Tleson potter. 3/4 6.

Handle zone: A: Τλέσδων ^ ho ^ Νε^άρχ^ο̄ ἐ^ποίησεν.

B: Τλέσδ^ν ^ ho Νεάρχ^ο̄ ἐ^ποίησεν.

6691: Louvre El. 98. BF band cup. Unattributed. 3/4 6.

A: χαῖρε ^ κα^ὶ πρί^ο̄ με. B: χαῖρε καὶ πρίο̄ με.

I have no note on the spacing on B.

6866: Providence, Rhode Island School of Design 1934.858. BF lip cup. Unattributed. 3/4 6.

A: χαῖρε καὶ πί(ει) τένδε. B: χαῖρε καὶ πί(ει) τένδε.

Some spacing in groups of letters. [Not specified in CAVI.]

8097: Würzburg 429. BG omphalos phiale. Unattributed. Niko-
sthenes potter.

Ext.: on a raised reserved band that edges the omphalos on
the outside, in BG:

Νικοσθ^ἐγῆς ^ ἐποίησεν. The gaps are substantial.

There are also some two-letter combinations that suggest basic
syllabic writing (consonant + vowel), although they are too rare to
suggest that real syllabification is prevalent in these inscriptions:

1634: Athens, N.M. Acr. ii, 1438. Fr. of cup foot. Date?

On the bottom, graffito: ε|θη|κ|, retr.¹⁹ Unclear reading.

2811: Boston 63.952. BF amphora. Manner of Exekias (close to
him).

To left of front horse's front legs: Κάσδων^κα^λός, retr. [Note
the spacing: ^ here indicates one empty letter space.]

The following example is due to the difficulty of remembering the
meaning of a group of letters:

2238: Berlin 1778. Band cup. Xenokles Painter. Xenokles potter.

550–530. Handle zone: A: Χσενονλῆς : ἐποίησε{:}ν. B:
Χσενονλῆς : ἐποκλεσεν.

¹⁹ E|ΘE|K|, Graef–Langlotz, listed as a proper name. Possibly [άν]έθῆκε[ν] with
'syllabic' punctuation?

An important subgroup of writing in letter groups, and clearly of a kind that suggests a relation to basic syllabification, is 'Abbreviated Writing', a phenomenon recently identified by Rudolf Wachter.²⁰ This is the irregular practice of omitting a single vowel, if that vowel is the second letter in the name of the preceding consonant; hence, e.g. ἀνέθ(η)κε. It is clearly an aspect of writing in groups of letters as Wachter himself recognizes when he compares it to open syllables found frequently in writing exercises.²¹ Since this is a deviation from a standard it must be considered in the category of errors related to the learning of writing. I have made a count of this phenomenon for the inscriptions registered in CAVI to test whether vase inscriptions follow the pattern established by Wachter whose base leans heavily toward stone inscriptions and other pottery fabrics²² (see Appendix 1).

There are a sufficient number of cases of Abbreviated Writing (42, not all of them certain) to show that vase painters too followed this practice. To these instances must be added the very frequent occurrences of heta followed by *e* either long or short; these number 46, giving a total of 88. The number of vowels omitted after consonant that are not part of the alphabetic name of that consonant (dubbed 'wrong' by Wachter) is also quite large (62), larger proportionally than in the examples used by Wachter.²³ The frequency of heta suggests to me that there were special reasons for its popularity.

This suspicion is reinforced by the chronological distribution of 'syllabic' heta on Attic vases, which differs from the other cases of Abbreviated Writing.²⁴ To assess the chronological distribution we must distinguish between heta followed by a short and by a long *e*-sound. Both forms are more frequent in the fifth century than in

²⁰ R. Wachter, *Abbreviated Writing*, *Kadmos* 30 (1991) 49–80.

²¹ See his remarks in: *Der Informationsgehalt von Schreibfehlern in griechischen und lateinischen Inschriften*, *Würzburger Jahrbücher* 18 (1992) 25; his *Non-Attic Greek Vase Inscriptions* (2001) 231, para. 111; *Kadmos* 30, 72–73; and *ZPE* 146 (cited above, n. 3) 69.

²² The count was easy to do since CAVI uses pointed brackets for omitted letters rather than the round brackets used in the Leyden system which can be used for a number of functions.

²³ $63 : 88 = 72\%$. For Wachter's figures see *Kadmos* 30, 71.

²⁴ Wachter's list on pp. 55–58 also shows a very large number of examples from vases of the first half of the fifth century. On p. 69 he recognizes that *h<e>* is a special case and 71ff. he gives a summary of previous discussions of *h<e>* and reaffirms his view that the reason for the omission is Abbreviated Writing – which to me does not explain the frequency.

the sixth, and he-short seems to occur almost entirely in the fifth,²⁵ especially in the second quarter. h<e>-long is of course more difficult to count, as it may include cases of early appearance of eta. The distribution suggests that ‘syllabic’ heta should not be considered on a par with other abbreviated writing; it may be influenced by the new interest in the Ionic alphabet in the second quarter of the fifth century as I suggested in Attic Script 143. This means that (although it too is an example of Abbreviated Writing) its frequency was not caused simply by a writing problem of the kind that caused abbreviated writing of other consonants. This suggestion does not, of course, explain the relative frequency of the practice in other regions and at other times. On Attic pottery Abbreviated Writing developed into a fashion among vase painters in the fifth century, a fashion which shows a certain ambivalence about the Attic and Ionic alphabets.

In view of the situation on vases, it is remarkable that neither Threatte nor Wachter cite good examples of ‘syllabic’ heta on stone.²⁶ But then omission of letters appears to be rare on fifth-century Attic inscriptions on stone.²⁷

On the other hand, the frequency with which “wrong” vowels are omitted after consonants on vases gives an insight into the writing competence of vase painters who not only were frequently rushed in applying the inscriptions, but also were sometimes restricted to writing letter by letter rather than in whole word images.

In all these cases we are dealing with vowels omitted after consonants. The omission of consonants is more difficult to assess. A rough count in CAVI suggests the following: there are 54 instances of omission for phonetic reasons, e.g. nasal before stop (Αἶα(ν)τος) or the simplification of consonant clusters (Ἀν(δ)ρομάχε). This number does not include 103 instances of omitted final sigma, which is so frequent that despite Threatte’s strictures²⁸ it must be considered a matter of dialect. Both these lists of consonants concentrate heavily in the sixth and very early fifth centuries, which suggests that in the later fifth century spelling became somewhat more regular. The same

²⁵ However, an early example is on a column krater by Lydos, CAVI 5034; see below, p. 185.

²⁶ The two examples in GAI i, 47 are both of the fourth century; the first is very doubtful, the second is considered an archaism by Threatte.

²⁷ I count only 12 fifth-century examples (6 of A. W. and 6 “wrong”) in W.’s list. The great majority are of course not in official inscriptions.

²⁸ See GAI i, 640. Threatte thinks the omission is mainly due to carelessness but for that the number of cases (which includes many in pausa) seems to me too large.

observation can be made about the frequency of nonsense inscriptions, which are more common in black-figure than in red-figure.²⁹

Against these figures stands a list of 54 omitted consonants that probably cannot be justified by dialect. These do not show the same concentration in the early period. Many of them are probably no more than *lapsus calami*, but some may have resembled adjacent letters. Thus Attic lambda bears some resemblance to the left part of a pointed alpha facing left³⁰ and Ionic lambda resembles alpha more closely as do Attic gamma and alpha. But when a word lacks the initial consonant, one may legitimately wonder whether the writer was not simply writing what appeared to him a sequence of letters.³¹

Another indication of writing in groups of letters are frequent duplications of two or more letters. Some of them have been discussed by Wachter who rightly connects them with abbreviated writing.³² The two-letter combinations beginning with a consonant may indeed have a connection with simple open syllables as Wachter surmises, but there are also cases of two letters beginning with a vowel and other cases of three and more letters not in any definable pattern. A tabulation will show that the variety of duplicated letter combinations excludes the possibility that we have here sustained syllabification rather than the writing in arbitrary groups of letters. In addition, there are also groups of letters that are omitted, reversed, or otherwise garbled (see Appendix 2).

– 3 –

In addition to the errors cited in section two, which concern evidence for writing in groups of letters by separating, omitting and otherwise mishandling such groups, there are other errors that may indicate diminished literacy. Here the main difficulty is to ignore the many errors that are simply due to carelessness – and they are surely the majority –, which tell us nothing about literacy competence.

One puzzling phenomenon is the common difference in levels of accuracy in the rendering of inscriptions in different works signed by, or attributed to, the same painter. To cite only examples of

²⁹ See my paper in *Kadmos* 45, 137 and n. 4.

³⁰ Alpha 4 in the chart, p. xxii in *Attic Script*.

³¹ Examples: 2030, Basel, Antikenmuseum Lu 36, <κ>αλό(ς) among proper spellings; 2750, Boston 10.183, καλή | <κ>(α)(λ)ή; 4231, London B 76, <Γ>λαῦκος, retr.; 4315, London B 416, <κ>αί; 6764, Once Paris, Raoul-Rochette, ARV² 1316/3, <Β>άτυλλος.

³² See Wachter, *Informationsgehalt* (above, note 21) 25–26 (consonant + vowel).

well-known artists whose identity is not in question, it seems that the accuracy is sometimes dependent on the subject depicted. The famous ‘Memnon Pietà’ by Douris (6458, Louvre G 115), which has, for such a careful painter, an unusual number of errors, may serve as an example. The Interior shows Eos with the dead body of Memnon and the inscriptions (Ϝ(?))ενεμεκνερινε. ηερμογένεζ | καλός. – ήεός : Δόρις | έγραφσεν. – Μεμλον. Καλ(λ)ιάδεζ | έποίησεν. The famous miswritten word is unclear but probably related to the *kalos*-inscription next to it, for it seems to contain the letters εμε or με, as most attempts at decipherment assume.³³ It seems likely that this particular *kalos*-inscription was ordered (Hermogenes does not appear as a *kalos* elsewhere). The other mistake, Memlon for Memnon is probably a copying mistake, for if the first stroke of nu is unclear, the rest can look like an Attic lambda. The vase was produced in the workshop of the potter Kalliades, otherwise unknown, hence not in a workshop usually associated with Douris (e.g. that of Python). The special circumstances included a model for the Interior and probably a request for a specific *kalos*-inscription. The Exterior also has errors: Ἀθῆ(ν)αί|α. ηεκλορ, for ήεκτῶρ. Ἀπό(ο)λλῶ|ν. Here the lambda in Hector’s name has no plausible connection with tau. The errors are all on B, perhaps the last side to be finished, and are thus probably errors of haste.

If this is an unusual example for an otherwise accurate painter, the Brygos Painter shows more irregularities, as mentioned in Attic Script 88–89. Vases with name labels and signatures are not very common; instead this painter prefers the generalized *ho παῖς καλός*, and, less frequently, *hē παῖς* or just plain *καλός/καλέ*. This plus the numerous nonsense inscriptions (among them the characteristic repetitions of nu’s and omicrons), would suggest that he was more comfortable with sequences that did not require much literate sophistication. When it comes to name labels, there is considerable difference between individual vases. In Attic Script I noted in particular the contrast in writing of the cups 4473, London E 65, and 6490, Louvre G 152, the first of which adapts the inscriptions to the situation (the rape of Iris by satyrs) while the second, with an Iliupersis, has a number of miswritten and misapplied inscriptions. It seems likely that in both cases, which are rather unusual in his oeuvre, the painter depended on some outside sources of different quality. A similar inconsistency exists in the substitution of voiceless stops for aspirates on two vases

³³ I believe the attempts at decipherment have not been successful; for a list, see e.g., M. G. Kanowski, AJA 82 (1978) 549ff.

(3562, Florence 3949: *πιλε καί*, for *φίλε καί*; 4475, London E 68: *Πιλον, Πιλιπος, Διπιλος, Νικοπιλε* = *Φίλδον, Φίλιπ(π)ος, Δίφιλος, Νικοφίλῃ*), while on two others phi is spelled in the normal way (5047, Malibu, Para. 367: *Λευκολοφίδῃς*; 5283, Munich 2416: *Σαφ(φ)ῶ*). The voiceless spelling have led to many speculations, but Perpillou has shown, on the basis of Theodorsson's tables, that this substitution was not uncommon on vases.³⁴ The Brygos Painter probably got these spellings with the subjects he was reproducing; they are not confined to him. The dependence on sources for some inscriptions would find a ready explanation if the Brygos Painter and the potter Brygos were the same person, as has often been suggested, for Brygos is a foreign name; but the matter is not certain.

The same explanation is not possible for the numerous mistakes found in Makron's inscriptions, since Makron is a Greek name, although not one current in classical Athens (see LGPN ii). Makron has name labels on many vases and they are frequently miswritten; I have given a list in Attic Script 90. Here too certain vases are particularly vulnerable to miswritten names, e.g. 5599, New York 12.231.1, with the following contemporary Athenian names: *Ἀντιφάνῃς καλιτος, καλέ, Νικοτρατε, Νίκδον, Κελιτραστε, Εὐκλῃς, Πελέα, Νικοθενες, Χαρινίδῃς, Ἀφρο[δ]ισία, Διονισιγενες, Λρακιας, Ναυκλέα καλ[ῃ]*. His literary competence is much in question, as shown e.g., by the remarkable copying mistake *Ἀρισταγο(N)ς* for *Ἀρισταγόρας* on 5339, Munich 2656 (below, p. 172).

These examples show that we cannot always assign peculiarities of spelling to the painter on whose work they occur, because they may have been transferred from another source. Of course, transferring errors does not relieve the copying painter of carelessness, and if the variations become pronounced, they raise the question of competence, as would be the case with the Brygos Painter.

Another way of assessing a vase painter's writing competence is however to look at how he handles the letters of the alphabet. The

³⁴ P. Kretschmer, *Die griechischen Vaseninschriften ihrer Sprache nach untersucht* (1894), 81 (cf. also 154) compares these spellings with the pronunciation of the Scythian archer ridiculed in *Ar.*, *Thesm.* 1086 and ff., or, alternately, with the absence of aspirates in the Cretan alphabet. In both cases, the Brygos Painter would be a foreigner. This is accepted by A. Cambitoglou, *The Brygos Painter* (Sydney 1968) 10–11. I had suggested to Cambitoglou that the spelling indicated that the figures were drunk. But Perpillou, *op. cit.* (above, n. 7), has shown that tenuis for aspirate is a not uncommon practice on vases, by referring to the lists of alternate spellings in S.-T. Theodorsson, *The Phonemic System of the Attic Dialect* (1974), esp. 131/115.

charts in Attic Script (pp. xxii–xxiii) show a great variety of letter forms, some of which I considered to be of general use, while others were more restricted (S(pecial) forms). In actuality the variations are considerably greater and many forms were not entered in the charts. Now the existence of careless forms is not in itself a sign of failed competence; on the contrary, the so-called hasty style, practiced especially by the Pioneers, is (when compared with earlier neater writing) a sign of greater fluency.³⁵ But excessive fluctuation in letter forms, when combined with spelling errors, does indeed raise the question of competence.

As an example we may consider the Penthesilea Painter who is about contemporary with the development of the Attic epigraphic style after the reforms of Ephialtes and the inroads made by the Ionic alphabet in informal inscriptions, which led to the rise of what I have called the Mixed Alphabet.³⁶ The great majority of his RF cups have the inscription *ho paĩs kalός*, more rarely only *kalός* or *kalḗ*, and there are very few sense inscriptions.³⁷ Writing this type of inscription certainly did not require much writing competence, as I have pointed out elsewhere.³⁸ Characteristic, but not exclusive, is the writing in two lines, often, but not always, in left-aligned stoichedon style, which shows an awareness of official script. But the unusual feature is the irregular use of letter forms. So, for example, the mu in [Γαν]υμῆδεξ on 1751 (see n. 37) has a peculiar low five-stroke form, which is rare in Attica.³⁹ More significant are variations of common letters, especially alpha and sigma. For alpha the painter sometimes favors the more unusual shapes, such as triangular (S2 and S4)⁴⁰, alpha with open or missing diagonal (S 1 and S 7), perhaps

³⁵ Cf. Attic Script 74. A good example of the hasty style is Phintias (Attic Script 66–68, 72) whose name appears in different forms (Philtias, Phitias, Phinti<a>s, Phintias) and who has numerous non-standard spellings. He is cited in Appendix 2, p. 194, for the omission of part of the label < Ἀρεῖμιδος (CAVI 6417). His letter forms are also frequently garbled. As these features are shared by most of the painters of the Pioneer style to one degree or another, it would be a mistake to declare them all of defective literacy.

³⁶ Attic Script 101 and *passim*.

³⁷ CAVI lists only two: 1400, Athens, Acr. ii, 569 (RF pyxis): [--]ων [κ]αλός. 1751, Athens, Ceramicus 1961 (Fr. of WG bobbin): [Γαν]υμῆδεξ. Note also the absence of nonsense inscriptions; the two examples in CAVI are both doubtful: 3930, Havana, Museum 163 (RF cup) and 5652, New York 28.167 (WG bobbin).

³⁸ Kadmos 45 (2006) 144.

³⁹ Attic Script 151, mu 7.

⁴⁰ The references are to the chart in Attic Script, pp. xxii–xxiii.

even dotted alpha (A 11).⁴¹ These variations are not remarkable in themselves, as they occur also in other painters who write quickly and idiosyncratically. Lambda tends to be the Attic shape, but there is an intrusion of the Ionic; sometimes both forms occur on the same vase, e.g. 2393, Berlin 2458 (also cited in n. 42), where the *kalos* have either Attic or Ionic lambda, indicating confusion between the two alphabets. Quite unusual are some of the many shapes given to sigma at word end, with variations of three- and four-stroke forms. Among the former are sideways sigma (S3), a very common form, and nu, the latter obtained by turning sideways sigma but resulting in a quite distinct form that cannot be confused with sigma.⁴² Three- and four-stroke sigma's appear on the same vase in 7397, St. Petersburg inv. 4224, and elsewhere. The four-stroke sigma appears in the form of clear mu's on 5347, Munich 2689; it again goes back to rotation of sigma by 90°.

Two observations can be made here: (1), there is uncertainty about the Attic and Ionic alphabets. And (2), some of the letters, especially final sigma, are written with little regard to their proper shape and meaning. This, plus the irregular form *παυς/παλς*, for *παῖς*,⁴³ argues for imperfect literacy.

Another painter whose literate competence can be questioned is the Oionokles Painter, formerly called the Dionokles Painter for he sometimes favors a triangular omicron.⁴⁴ In addition to his peculiar letter forms, he uses the (erroneous) form *paus/pals* for *παῖς* and adopts alien nonsense inscriptions from the Briseis Painter, a member of the Brygan group, probably simply because he found himself sitting next to him in the workshop.⁴⁵ On the other hand, a vase like 6295, Louvre F 72, a BF band cup with numerous nonsense inscriptions

⁴¹ 5346, Munich 2688, if my note is correct.

⁴² Consistent: 3882, Hamburg Market, Termer: *ho παυν | καλον*, several times. Occasional, with other forms of sigma: 2393, Berlin 2548. 5346, Munich 2688. 6224, Paris, Cab. Méd. 820.

⁴³ Kretschmer, *op. cit.* (n. 34) 188–90 thought *παυς* an alternate form of *παῖς*, but Threatte, *GAI* ii, 278–79 has convincingly shown that it is an error; I believe it should always be read *παλς*; see in detail my paper, *Observations on Writing Practices* (above, p. 153 and n. 2).

⁴⁴ For this painter see my paper, *Observations on Writing Practices*; some letter forms are listed there in n. 27.

⁴⁵ For Brisean nonsense see E. D. Serbeti, *Boreas* 12 (1989) 40–41. For 4564, London E 301, a RF Nolan amphora with repeated *ho παῖς καλός*, I noted: Miswritten letters: alpha 9 reversed, near S 2 and sideways. Kappa 6 angular and incomplete. Lambda 1 and twice = upsilon 3. Omicron 2, S 1 and S 9. Pi near S 5 with third hasta pinched in. Sigma 1 and once S 1 reversed. Upsilon miswritten.

that contain a number of miswritten letters, would not be considered the product of a semi-literate (since the bad writing could be the result of haste and carelessness), were it not for the fact that several inscriptions begin with the letters ΕΠΟ..., i.e., the painter uses letters familiar from signatures for meaningless inscriptions.

Sometimes, however, the mere distribution of sense and nonsense inscriptions in a painter's work may indicate clearly that he is not fully literate. A good example is 4241, London B 144, an amphora of Panathenaic shape by the Swing Painter (Beazley⁴⁶), showing on B a winner in the horse race: a boy jockey on a horse, led by a bearded man and followed by a youth carrying a tripod. From the man's mouth issue the words: Δυν(ν)εικέτυ : ήίπ(π)ος : νικᾷ.⁴⁷ Now the other inscriptions by the Swing Painter listed in CAVI are mainly nonsense inscriptions, many of them just dots, which makes it likely that he was semi-literate and used an outside model that celebrated this victory.⁴⁸

Thus separating diagnostic errors from the mass of careless writing requires the consideration of the special characteristics of the works of each individual painter. A combination of miswritten letters with other obvious errors is perhaps the best evidence for impaired literacy.

How, then, should we judge miswritten name labels? This is not an area where certainty is possible, but we can perhaps give some guide lines. When a single miswritten label is accompanied by well written ones, this is probably a result of copying (the miswritten label not being clear in the original)⁴⁹. But when there are numerous miswritten name labels on a vase, it suggests a failure of literacy. The best examples of multiple errors of this kind are vases by certain painters of the earlier group of the Tyrrhenian workshop (the later group writes only nonsense inscriptions⁵⁰) which have a large number of very unclear name labels, sometimes verging on nonsense. 3127a, a neck amphora attributed to the Timiades Painter by

⁴⁶ It should be noted, however, that E. Böhr does not attribute this vase to the Swing Painter; see *Der Schaukelmaler* (Kerameus 4, 1982) 110/P 4. Böhr believes that the only inscriptions by the Swing Painter are dots, thus making him a candidate for complete illiteracy; see *ibidem*, 32, 94/99, a propos of CAVI 6350, Louvre F 226.

⁴⁷ Dynniketos for Dysniketos is the only known form of this name in Athens, see LGPN ii, s.v. For upsilon for long closed o see Attic Script 162. I think Dynniketos is here a real victor; the source of the vase celebrated the omen of his name.

⁴⁸ For some other interpretations see CAVI.

⁴⁹ Observations on Writing Practices (above, p. 153 and n. 2).

⁵⁰ Kadmos 45, 146.

Bothmer and to the Prometheus Painter by Kuiper, with Heracles and the Amazons, has (in addition to clear mythological names), Ῥοδῶ, Αἰνιπ(π)εια, ηἰπ(π)οτιος and Αἰπις. 7944, Vienna 3613, a BF hydria of the Archippe group, which is related to the Tyrrhenian Group, with warriors on the shoulder and a departure scene on the body, has the following mixture of sense and miswritten names: shoulder: τελοπυσφος. χιλκες, retr. λεοτις. (κ)ο(χ)λει, retr. σου-ετπολος. Body: Ἀνφιλοχος. Ἀρχιπ(π)ε. ρι(.)ι(.)(). Διομέδης, retr. Κ(ά)λ(λ)ιπ(π)ος or more probably Κλ(ἐ)ῖπ(π)ος (Beazley, AJA 58, 187, III). Εὐμελία, retr. Most remarkable are the attempts of writing names on 4229, London B 48, a BF neck amphora by the Kyllenios Painter, with athletes and trainers on A and a fight of seven warriors on B. The inscriptions are: A: σιχεοσ. ηἰπ(π)οστένε(ς) (the only name that makes sense). ουερποσ. οἰυποκσσυχυ. ουιτεσοε. [-].[----]ριψ. B: ποεο[.]. πιφεσο[.]. (.)υισοεσ. ου(.)ο(π)πο[.]. π[.]ποεσο(π). (One more, rubbed off.) All these are intended for name labels.⁵¹ These inscriptions raise not only the question of writing competence but beyond it that of the understanding of Greek names. The Tyrrhenian painters, although working in Athens, may not have been Athenians and perhaps not even Greeks.⁵² But there are other painters who face similar difficulties, e.g. 5236, Munich 2172, an unattributed BF lip cup, somewhat later than the Tyrrhenian vases, has the inscriptions: A: ηἰπ(π)οτέλε(ς) καλοσεν. B: ηἰπ(π)οκμενος εαιοι. Hippokeimenos is apparently a ghost name.

Using the criteria set out in this section, it should be possible to evaluate many painters on an individual basis, a task that goes far beyond the compass of this paper.

– 4 –

In the previous section we have made reference several times to the possibility that inscriptions on certain vases were not freely written but copied from another source. The question is how significant is this, and when does it show a lack of competence. It should be clear from remarks in Attic Script and in other papers that I suspect that copying was more common than is usually conceded. In Attic Script

⁵¹ I took the readings of A from Attic Script 42 no. 181 (cf. also fig. 43); those of B from CAVI which unfortunately uses an old rendering. There should be a seventh inscription on B as all figures are named.

⁵² For the thesis of T. H. Carpenter that the Tyrrhenian workshop is not Attic see Kadmos 45, 147 n. 35. I prefer thinking of it as composed of foreigners working in Athens.

172–73 I raised the question of models from which inscriptions could be copied without, however, defining closely what such models might have been. I now believe that the models were mostly other vases. The term “copying” can be used in two ways: either as a general inspiration from one painter to another, as is sometimes the case with the dissemination of nonsense inscriptions, or as reproducing a specific inscription. In this paper I want to deal with the second type. The question, of course, is when such copying indicates a lack of writing competence. But first we must review what evidence there is for copying.

The surest indication that we are dealing with copying of a model are instances, demonstrated for an inscription on stone by D. M. Lewis, where for certain letters the mason marked dots to indicate that he could not read them in the original inscription he was copying.⁵³ For vases I gave an example in Attic Script, but there are more:

iota:

Not in CAVI: Unlocated. BG vase. From island of Berezan, South Russia. Haspels, ABFL 127 (not ill.). Pharmakowsky, AA 1907, 145.

Graffito: Μηδε(ι)ς με κλέψῃ.

This ‘vase’ may not be Attic. The iota is given as three dots in a vertical row.

rho:

1225: Athens, Acr. ii, 20. Frs. of RF plate. Brygos Painter.

[---]εε.εν(ϛ) *vac.* εκ[---].

This inscription (there may be two, as there is a *vacat*) is in clear letters according to the drawing in Graef–Langlotz and is not a nonsense inscription of the common Brygan type. The third extant letter, here marked (.), consists of three dots arranged in the shape of a triangle = rho S 6 turned 180 degrees on the chart in Attic Script, p. xxiii. This need not have been intended for rho here, of course. If this inscription was copied, it is presumably badly miswritten and not a nonsense inscription.

2862: Braunschweig, Museum 523. Fr. of BF pot. Unattributed. 530–520 (CVA).

⁵³ See D. M. Lewis, JHS 87 (1967) 132 (a propos of IG i³ 105, a copy of a much earlier inscription, which shows three groups of two dots, each pair replacing a letter) and Attic Script 174 n. 5.

ηετο(ρ), three dots. The name of a giant, obviously miscopied from another source which was not clear.

7945: Vienna, Kunsthistorisches Museum 3614. BF hydria. Near the Tyrrhenian Group iii.

Πε(ρ)⟨ρ⟩εύς (two dots only).

sigma:

4590: London E 437. RF stamnos. Oltos. Pamphaios potter.

ηερακλε:. This may however be a punctuation mark, with final sigma omitted (cf. Attic Script 160, no. 1107).

Also in Attic Script (173, bottom) I noted the instances where letters are so badly miswritten that it is clear the painter did not understand them; a number of these are listed in the chart, pp. xxii–xxiii. I would suggest that these too were sometimes the result of a model that could not be read properly.

There is other evidence for copying a model, e.g., when there is a meaningless substitution of one letter for another without a notable similarity of shape:

3568: Florence 3985.+ RF pelike. Berlin Painter.

(ε)ῥ̃ γε. The epsilon of εῥ̃ γε is a clear nu and the inscription has been read νῦ⟨ν⟩ γε by D. Levi (see Attic Script, 82, NO. 491, and n. 11), but I think the nu is a copying error for epsilon.

3576: The François Vase. In Attic Script 25 and 173 I pointed to certain misspellings which I considered copying errors. They were: [Ποσ]ειπον. Ε⟨ῥ⟩βόλος. Βενσις(τ)ρατ[ος]. Επιhoia. In addition I pointed to letters mistaken by their similarity to others, which might be due to carelessness or to faulty copying: Θερανηρος. ηαφρολιτε. ηερονιος (this last was an error; the correct reading is mu). R. Wachter, *The Inscriptions on the François Vase*, *MusHelv* 48 (1991) 86–113, esp. 101–104, objected on the grounds that a painter so obviously literate had no need to copy. But there are many examples to show that copying is not always due to illiteracy. For some further arguments see my paper, *Observations on Writing Practices*, n. 45.

4372: London B 608. Panathenaic prize amphora. 336/5. Pythodelos archon.

Attic Script 185, no. 1218. Πυθόδηλος Νοχεν.

4588: London E 417. RF pelike. Painter of Munich 2363. 2/4 5.

Non-stoichedon two-liner: καλός | Διωε, for Δίων.

5339: Munich 2656.+ RF cup. Makron. Hieron potter. Attic Script 90, no. 567.

Ἀρισταγό(N)ς καλός. Rho-alpha written as a reversed nu (nu S 2).

6312: Louvre F 98 bis. Lip cup. Unattributed.

Handle zone: A: χαῖρε : κντε : εὔ. B: χαῖρε : κνπιε : εὔ.

The nu is a copying error for alpha-iota. Also once tau for pi-iota? Cf. Wachter, *Kadmos* 42, 150/35.

As mentioned above, copying is also suspected in cases where a single name is misunderstood while the majority of name labels are clearly written. The model was probably not clear at that point.

An area where copying was clearly required are the numerous instances where inscriptions are presented in preliminary sketch and then copied on the final vase surface.⁵⁴ These are often mentioned in the literature, but rarely studied, because it is usually assumed that the writing is by the same person who did the rest of the decoration. This is no doubt almost always true, but there are some indications that occasionally the writing in preliminary sketch was done by another, perhaps with the intent of giving direction to the painter. It is these cases that interest us here.⁵⁵ Martin Boss has recently made the striking observation that the preliminary sketch of 2324, Berlin 2278, a RF cup attributed to the Sosias Painter by Beazley and to Euthymides by Ohly-Dumm, is not in the Pioneer style.⁵⁶ Since the pictures are clearly in the Pioneer tradition, this raises for me the possibility that the sketch was the work of someone other than the painter. Hence one should keep in mind that some elements, especially inscriptions, may have been added in preliminary sketch by another person in order to give instructions to the painter.

The techniques employed in preliminary sketch depended on when it was put on during the process of fashioning the vase. If the clay was still soft, a light incision was employed, and this is true of the majority of cases. Good examples are the letters put on pyxides and pyxis lids to make sure that the right lid was put on its proper pyxis. This had to be done as early as possible to avoid mismatches.

⁵⁴ See Attic Script 174 n. 6.

⁵⁵ For a general account of current work on preliminary sketch see E. Böhr and M. Heilmeyer, *Vorzeichnungen*, in M. Bentz, ed., *Vasenforschung und Corpus Vasorum Antiquorum* (2002), pp. 43–50, with bibliography. Cf. also P. E. Corbett, *JHS* 85 (1965) 16–32, pls. 1–15.

⁵⁶ M. Boss in I. Wehgartner, ed., *Euphronios und seine Zeit* (Colloquium Berlin 19.–20. April 1991) 87–89.

Examples are: CAVI 355, Athens, Agora P 5711; 1860, Athens, Pnyx P 92; 7799, Tübingen 5609; cf. A. W. Johnston, *Trademarks on Greek Vases* (1979), 180f. If however the vase was already in leather-hard condition, paint had to be employed, and this explains a number of instances where preliminary sketch is executed in relief lines under the glaze. An example is the picture of a phallus found under the glaze on the following:

2319: Berlin 2272. RF cup. Unattributed. 4/4 6.

A naked woman ties her sandal after a bath. At right, a large phallus under the glaze. The phallus is in relief lines; Furtwängler compares the inscriptions under the glaze on 2313, Berlin 2264, q.v. below.

There are of course instances where a vase was subject to notations or doodling which had nothing to do with the decoration that was ultimately put on it and should probably not be confused with preliminary sketch. I list examples in Appendix 3 because several of them may have been intended as instructions for projects that were not executed, such as a *kalos*-name that was not written, name labels, or even nonsense intended for some other artist or picture.

In other instances there is clearly a relation between the preliminary sketch, even if executed by another hand (or requested by another from the painter) and the final product. An inscription under the glaze is sometimes a clear indication that the vase was a commission – a bespoke piece. So already on the very early Tharrias cup:

313: Athens, Agora P 4663. Fragmentary sub-geometric BG skyphos. Unattributed. Ca. 650.

Graffito before firing (so R. Young, *Hesperia* suppl. 2, 124/B 55), hence surely under the glaze: Θαρ(ρ)ῖδ ἐμὶ ποτῆριον.

410: Athens, Agora P 9978. Fr. (chip) of a clay object, probably a lamp, as confirmed to me by Judith Binder. 2/2 fifth?

On the outer face, in white dipinto, two non-stoichedon lines following the rim are partially preserved:

[---]θε[¹⁻²]ν | [--]ηξε Π[--]

Under the glaze is the preliminary sketch, incised:

[---]θεφ[¹]ν | [--](.)ξε : Π[--].

This minute fragment is obviously hard to read and the present reading tries to improve upon what is listed in CAVI. The Dip. shows, in line 1, three letters with a gap of 1–2 letter spaces in third place. It is attractive to restore either [Μητροῖ] θε[ῶ]ν or [ταῖν] θε[οῖ]ν, especially since the object appears to be a lamp. The preliminary sketch, however, shows a horizontal bar as the beginning of the third letter, which settles the matter in favor of θεῶν, even if one has to assume a slight irregularity, unless the omega was very broad (cf. Attic Script, p. xxiii, omega 4 and S4). [Μητροῖ] θεῶν, whose rites were often at night, is an attractive reading for a lamp. The second line shows at the beginning the upper parts of two vertical strokes, easily restored as eta (which means the lamp is not very early): [ἀνέθ]ηκε. The preliminary sketch at this point shows a double punctuation mark which was not copied on the glaze. The last letter is clearer on the glaze than in the preliminary sketch and is probably a pi, which could be a name in the genitive.

Thus a combined text would be: [ἡ δεῖνα Μητροῖ] θεῶν | [ἀνέθ]ηκε : Π[name in gen.?]. It is clear that the lamp was a commission and the inscription, although probably written in the workshop, may reproduce an order.

A cup by Oltos in Berlin which has some raised inscriptions under the glaze that have been copied on the glaze may be a simple case of preliminary sketch written by the same painter (Oltos) who also did the final version:

2313: Berlin 2264. RF cup. Oltos. Euxitheos potter. 4/4 6.

A: Departure of Achilles and Antilochus? B: fight for the body of Patroclus.

A: To left of Phoenix' head: Φοῖνιχς, retr. Letters in slight relief under the glaze are printed by Furtwängler as a second line: c ινχ, also retr. To right of Antilochus' head, above the glaze: Ἀντίλοχος. Below, to right and left of his legs, in low relief under the glaze: Ἀν(τ)[ί]λοχος, retr. Phoenix' name seems to have been misspelled in the sketch, but appears correctly in the final inscription. The tau in the sketch's *Antilochos* is given by Furtwängler as an iota; hence perhaps: Ἀν(τ)ίλοχος.

B: above the body of Patroclus, on the glaze: Πάτροκλος, retr.

A bit to the left, under the glaze: IT, i.e. [Πά]τρ[οκλος], retr.? To right of Ajax' head, on the glaze: Αἶα(ς). The facs. seems to show that something was under the sigma.

I list only the inscriptions for which Furtwängler indicates a preliminary sketch; they do not include the signatures of Euxitheos and Oltos on the Interior, which are in a larger and more careful hand and may not have been written by Oltos. Note that the locations of the preliminary and final inscriptions sometimes differ as do the spellings. Oltos shows himself to be quite literate here as the final versions are correct. Since the errors are in the preliminary version, it is unlikely that it was intended as an instruction, although it may have been written by another hand.

The situation is however somewhat different for a fragment by the Pantoxena Painter already discussed twice by me, but which merits further investigation:

2765: Boston 10.224. Fr. of RF skyphos. Pantoxena Painter (Polygnotan). 3/4 5. ARV² 1050/2. The James Sprunt Studies in History and Political Science 46 (1964) 21/6, fig. 3 (dr.). Attic Script 111, n. 7, no. 758, Fig. 138 (dr.)⁵⁷ and 174, n. 6. M. Robertson, The Art of Vase-painting in Classical Athens (1992) 218.

Παντοξένα
Παντοξένα
 Κορίν(θ)οι
Κορίν(θ)οι
 χορία
καλή.
 καλαις.

I.e. Παντοξένα | Κορίν(θ)ο | καλή (under the glaze).
 Παντοξένα | Κορίν(θ)οι | χορία | καλαις (over the glaze).

The underlined letters are under the glaze (i.e., in preliminary sketch) and were probably written in relief lines, which show up as raised. The text written on the glaze was copied from that inscription; the second line was copied twice, the second time copied wrongly; the third line was copied with a mistake that recalls the word παῖς. The inscriptions seem to be by different hands. CAVI 6229, Cab. Méd. 846, by the same painter, has: Παντοξένα καλὰ Κορίνθοι, and 4617, London E 509.4, had a different three-line inscription, of which a few letters are preserved (see ARV² 1050/1 and 3). Both

⁵⁷ The drawing is by Sue Chapman who did many drawings for L. D. Caskey and J. D. Beazley, Attic Vases in the Museum of Fine Arts, Boston (1931–63). The reprint in Attic Script is a more accurate rendering of it than that in Sprunt Studies 46 (1964) fig. 3 (facing p. 23).

are well-written stoichedon three-liners. Robertson however reads (following Beazley, ARV² 1050/2): Παντοξένα Κορίνθοι ho[ρα]ία κάλαις. He intends this to mean: ‘Pantoxena is a handsome hen in Corinth’ (the city famous for its prostitutes). ho[ρα]ία, literally, means ‘in season’, by extension ‘in the bloom of youth’. κάλαις is reported, as Beazley says, as a Doric word for ‘hen’.⁵⁸ The gap in ho[ρα]ία is however not large enough for two letters, so the reading would have to be hoρ(α)ία. This reading was made without regard to the inscription under the glaze. It is of course possible that the painter, seeing the preliminary sketch, decided to make a joke of it, but there are several arguments against it. (1) the regular formula – X seems handsome to Y – typically includes a personal name in the dative, although the name Korinthos occurs in Attica only in the Hellenistic and Roman periods.⁵⁹ Korinthos would thus be a foreigner⁶⁰ (a suggestion in agreement with the Doric form καλά in CAVI 6229), and we could read: Pantoxena is a handsome hen for Korinthos.⁶¹ That would bring the inscription somewhat closer to others of this sort.⁶² (2) But what is most remarkable is the similarity between the words Korinthoi and hōria, as well as kale and kalais. Hence miscopying is more likely than sophisticated joking, which leads to the suggestion, already indicated in Sprunt Studies, that we have here two hands, one giving instructions to the other. The copying errors do not speak well of the literacy of the Pantoxena Painter, although he was able to write the kale-inscription clearly on another vase, where we may imagine the source was clearer than an instruction under the glaze.

– 5 –

The previous section has shown that there was ample opportunity within workshops for models that could be useful. Hence there is

⁵⁸ In inscriptions from Epidaurus κάλαις is mentioned as a sacrificial animal: IG iv², 1, 40, lines 5–6: a κάλαις to Leto and Artemis each, females; ibidem 41, line 6: a κάλαις to Asclepius, sex unspecified, but (if a fowl) surely male. LSJ, s.v., translates ‘cock’, but the Rev. Suppl. (1996) leaves both identification and sex of the animal open. Hence it is not quite clear that the word refers to a female fowl.

⁵⁹ See LGPN ii, s.v.

⁶⁰ In Sprunt Studies 23 and n. 34 I cite a fourth-century occurrence from Argos.

⁶¹ In ARV² 1050/2 Beazley also raises the question whether to read “for Korinthos” or “in Korinth”.

⁶² Such as 6286, Paris, Louvre F 38: Ἀνδοκίδεξ κα[λ]ὸς δοκεῖ, retr. | Τιμα[γ]όρου, retr. 4642, London E 718: Ἀφροδισία καλέ, τὸς δοκεῖ Εὐχίῳ.

no need to go to other sources of which no trace remains.⁶³ This section adds some further examples of readily available models, some of which are themselves pottery objects, while others were popular monuments accessible to potters.

There are two plaques from the Acropolis which on their backs contain inscriptions – one of a signature, the other probably of a *kalos*-name – which I believe were intended as instructions for writing these inscriptions:

1176: Athens, N.M. Acr. i, 2498. Fr. of BF plaque. Unattributed. Late 6th.

Back: in two lines:

ν. ἐποίει[σεν]⁶⁴[---]
[---]δεῖς *vacat.* ---]...

The second line is in larger letters than the first; yet the two overlapping letters are stoichedon. The letters are widely spaced and clearly written in ‘epigraphic script’. Beazley states: “The plaque was originally a big one, which got broken before being painted and was used for scribbling on – to try the brush. The ‘signature’ belongs to this stage. A smaller plaque was cut from it and painted on the other side.” I think the signature was a model to be used elsewhere.

1180: Athens, N.M. Acr. i, 2517. Frs. of BF plaque. Unattributed. 3/3 6.

Back: the photo in Graef–Langlotz shows: fr. a(?): a large E. Fr. b(?): upper line: [---](.)λφ[---]. Lower line (in larger letters): [---](.)(.)[---].

Letters only partially preserved. The omicron on fr. b is no doubt my error. Rumpf and Boardman (independently) restore: Εὐφίλετος καλός, which is accepted by Beazley (ABV 325/43 and 666).

A model is assumed with some likelihood in the following, although it cannot be proved:

4691: London 95.10-27.2. RF stemless cup. Unattributed imitation of Douris. E. Szabo and M. C. Miller, The “Kottabos-Toast”

⁶³ In the brief discussions of this topic in Attic Script 172 and n. 3 I mention Schefold’s idea of copy books.

⁶⁴ Or ἐποίει.

and an Inscribed Red-figured Cup, *Hesperia* 60 (1991) 367–82, figs. 1–2, pls. 97–100; facss. of inscriptions, pp. 367–68. Formerly thought Boeotian. The consistently false retrograde of some of the inscriptions (see *Hesperia* 60, 370–71) suggests to me that they were probably copied from a model that was properly retrograde even where the speaker did not face left (which is the case on side B). This is different from the occasional reversal of some individual letters in retrograde when written by someone not fully familiar with true retrograde, of which there is an example in *Attic Script* 104, no. 721, fig. 118. It also seems unlikely that a painter of such poor quality could have thought up these sophisticated (in terms of vase inscriptions) texts.

Copies of vase paintings by the Meidias Painter by imitators are mentioned at least twice by Beazley: 4041, Karlsruhe B 36 (259), RF hydria, Painter of the Karlsruhe Paris. The painter is said by Beazley, rightly, to have produced “labored copies of pictures by the Meidias Painter”.⁶⁵ 4639, London E 698, which is called by Beazley a “laboured copy of the Meidias Painter by a poor artist”.⁶⁶ There are also instances of vases that copy works in other media. An early example is the Victory in the Horse Race depicted on a vase attributed by Beazley to the Swing Painter, 4241, London B 144 (above, p. 168). This type of copying is particularly common in the later fifth century. Examples that come to mind are the Pronomos Vase with its historical name labels of the cast of a play (5435, Naples 3240), a RF pelike by the Epimedes Painter (6827, Plovdiv, Departmental Archaeological Museum inv. 1812) that shows a citharode named Alkimachos together with his victories, and a RF plate by the Meidias Painter (4189, Leuven, Katholieke Universiteit, D. Cramers, AA 1978, 67–73, figs. 1–5) celebrating the infancy of Asclepius. It was probably copied from a pinax, as suggested by E. Simon apud Cramers. All these vases include carefully written inscriptions in their copies.

Thus copying is sometimes no more than a necessity, e.g., when a request is made for a *kalos*-inscription or a signature. The spelling may be that of the originator of the request or it may be caused by a difficulty in reading the request, if it was in writing. A famous example of the copying of a request, in fact an instruction, is the

⁶⁵ ARV² 1315.

⁶⁶ ARV² 1316, III, a.

gift inscription on a dinos signed by Ekekias, 7202, Rome, Villa Giulia 50,599, Ἐπαίνετος μῆδῳκεν Χαρόπῳ, which is a graffito in the Sikyonian alphabet and thus no doubt furnished by Charopos' lover to the painter.⁶⁷ It is clear that the copies listed in the last two sections of this paper were not made by illiterates, but they suggest avenues open to less able painters that would facilitate their task of writing sense inscriptions. Copying from whatever source certainly would assist those who had difficulties with lettering. When we suspect copying, we must ask whether the reason is lack of competence or simply practicality.

– 6 –

The answer to the question, how reliable are vase painters as sources for the Attic dialect, is that it depends on the individual painter.⁶⁸ In other words, the study of language cannot be divorced from the study of hands. The difference is not necessarily based on the quality of the images but rather on knowledge of alphabetic writing. It is true that much of the writing of name labels or the like is not controversial but in the case of a problem caution is in order.

The literacy standard that applies to most of the period is that of oral literacy rather than a prescribed written standard. This is particularly true in the sixth and early fifth centuries, as demonstrated by the lists of omitted single consonants as well as “wrong” vowels and the frequency of nonsense inscriptions. In the later fifth century there is greater regularity, perhaps an increase in education. Particularly “learned”, if that is the right word, are certain painters of the end of the fifth century, as I pointed out in *Attic Script*.⁶⁹

It is unfortunate that there appears to be so little evidence for writing exercises in archaic Athens such as we have in later periods and from other regions. We are thus forced to use the indirect evidence provided by errors to assess writing competence.

True illiteracy, i.e. lack of knowledge of the alphabet as a whole, is found on a number of vases but they are a distinct minority. Most vase painters had passed that stage, but there is a very large group of persons who appear to have considerable difficulties in writing cor-

⁶⁷ See Beazley, ABV 146/20.

⁶⁸ My supposition, as articulated in *Attic Script*, is that, as a rule, inscriptions, when produced in the workshop, are written by the vase painters, although there are instances that were written by potters. We need specific reasons for assuming that an inscription was written by someone other than the painter.

⁶⁹ See *Script* 116.

rectly, as shown by the writing of letters in groups without regard to the words they compose as well as to the mishandling of such groups by repetition or omission of letters. Among the aspects of writing in letter groups must be counted the curious omission of vowels that are the first vowel of a letter's name, so-called Abbreviated Writing. On the vases, this is accompanied by a fair number of vowels that are not part of the consonant's name – “wrong” vowels in Wachter's parlance. This shows that the omission of “right” vowels, just as that of “wrong” ones, is a matter of errors. The habit in both cases may derive from writing exercises, but Abbreviated Writing is facilitated by the names of the letters. In some cases this latter practice evolved into a fashion that was used by quite literate painters. This is the case of heta followed by the *e*-sound, whether long or short, which was popular in the fifth century when the Ionic alphabet was making serious inroads.

This evidence is reinforced by the (mis)treatment of individual letters by certain vase painters, which, when accompanied by other errors, can hardly be called simple carelessness. It is further enhanced by the numerous indications that inscriptions have been copied, perhaps from another vase or some other means of instruction (as for example in cases of signatures or requested *kalos*-names). This kind of copying is not in itself a sign of incompetence but merely of practicality, unless the remaining work of a painter shows that his other inscriptions are not up to the standard of the copied texts. It would be natural for painters unsure of their writing ability to look for models.

By focusing on the large number of vase painters with uncertain literacy rather than on a mechanical distinction between illiterate and fully literate craftsmen, this paper attempted to furnish guidelines that could be applied to most, if not all, painters. The only rational approach to the study of literacy is an assessment of each individual painter of whom we have sufficient documentation. In using a certain spelling of a word as linguistic evidence, we must look at the corpus of that painter's inscriptions (if possible) to see how trustworthy his writing is. For the painters differed much in this respect.

Appendix 1: Single Vowel Omitted after Consonant in Attic Vase Inscriptions⁷⁰

1.⁷¹ Examples excluded from this count:

- Ἄξιοπεΐθης in the Achilles Painter, which Wachter (Kadmos 30, 76) seems to think is Ἄξιοπεΐθῃς, but which probably has eta.
- 1092: Athens, N.M. Acr. i, 1751, πρόπ(ι)θι. Because of doubts in GAI ii, 458.
- 3541: Florence 3790, Ἀνφιτρ(ι)τῆ, as CAVI has the iota extant. Wachter, Kadmos 30, 66.
- 5259: Munich 2308, χ(ά)λχασπι(ς). A very doubtful reading by Neumann of a Euthymidean nonsense word.
- 6111: Paris, Cab. Méd. 335, ἐ[ποί]ῃσ(ε)(ν), Beazley, but my reading is quite different.
- 6275: Paris, Louvre E 875; I write Τοχσοφύῃ after Pease. Wachter, n. 102 also omits this.

2. Omitted for phonetic reasons:

- Kretschmer, op. cit. (above, n. 34) 138–39 and 193–94 suggested that the form -υς for -ευς is a parallel formation; this is denied by Threatte, GAI i, 345–46, but there are too many examples:
- 2456: Berlin inv. 3244, Νῆρ(ε)ύς. Unattributed. 430–420.
- 2619: Boston 95.15, Ἀχίλλ(ε)ύς. Related to Edinburgh Painter. Early 5.
- 4598: London E 450, Θῆσ(ε)ύς. Epimedes Painter. (Polygnotan). 3/4 5.
- 5148: Munich 1408, Τυδ(ε)ύς. Leagros Group. 510–500.
- 5473: Naples 86,496, Θῆσ(ε)ύς. Aison. 4/4 5.
- 6395: Paris, Louvre G 17. Ερυ^αθυς for Εὐρυσθεύς. Oltos 4/4 6.
- 7017: Paris, Cab. Méd. 542. Οἶν(ε)ύς. Lykaon Painter. 3/4 5. After GAI i, 346.

Kretschmer 124 also suggested a phonetic reason for the omission of epsilon in the last syllable of ἐποίῃσ(ε)ν and ἔγραψ(ε)ν:

⁷⁰ All examples in this count are divided into two classes: certain and questionable, separated by a line (-----).

⁷¹ Two slight correctons to Wachter's article:

5760: Pamphaios potter. ἐποίῃσ(ε)ν. Now New York, Mitchell.

6537: h(ε)ῶς. Late Brygos Painter. I go with Beazley who declares the word to be nonsense.

- 2040: Basel, Cahn 859, ἐ(π)ο(ι)ῆσ(ε)ν. Unattributed. 3/4 6.
 2230: Once Berlin 1766, ποιεσ(ε)ν. Potter Akiies(?), miswritten). 3/4 6. Lip cup.
 2387: Berlin 2531, ἐποῖεσ(ε)ν. Aristophanes and Erginos. Late 5.
 4462: London E 49+, ἔ^γραφσ(ε)ν. Douris. 1/4 5.
 5218: Munich 2135, ἐποῖεσ(ε)ν. On B only. Tleson Painter. 3/4 6. Lip cup.
 5547: New York 06.1021.155, ἐποῖε(σ)(ε)(ν) (probably Xenokles). LM cup. 3/4 6.
 5742: New York, Bastis, ABV 253, ἐποῖεσ(ε)ν. Unattributed. Andokides potter. 3/4 6.
 5760: New York, Mitchell, ABV 236/7, ἐ(π)οῖεσ(ε)ν. Unattributed. Pamphaios potter. 4/4 6.
 7207: Rome, Villa Giulia 50,679, ποιεσ(ε)ν. Potter A[--]kles. 3/4 6. Lip cup.
 7207: Rome, Villa Giulia 50,679, ποιεσ(ε)ν. Potter A[--]kles. 3/4 6. Lip cup. I.e., twice.

Perhaps also:

- 4233: London B 130, Ἀθένεθ(ε)ν. Burgon Group. 2/4 6. Panathenaic prize amphora. Cf. Wachter, *Kadmos* 30, note 42. But see the next section.

3. Omitted as ‘Abbreviated Writing’:

alpha:⁷²

- γα: 1336: Athens, N.M. Acr. ii, 315, Ἀγ(α)μέμνων. Makron. 1/4 5. So the drawing in Graef–Langlotz; the text has it complete.
 κα: 1934: Baltimore, Walters 48.32, κ(α)λός. BF hydria. Unattributed? Date?
 κα: 2718: Boston 01.8075, κ(α)λός π. Dokimasia Painter. 480–470.
 κα: 3846: Göttingen, University J 40, κ(α)λός. Once, with several regular *kalos*. Angular Painter (Penthesilean). 2/4 5.
 κα: 4885: Madrid 10,920, κ(α)λός. Priam Painter. 4/4 6.
 κα: 5623: New York 21.88.73, κ(α)λός. Polygnotos. 3/4 5.
 κα: 6310: Paris, Louvre F 97 bis, κ(α)λ. On A. So CVA. 3/4 6. LM cup.
 κα: 6310: Paris, Louvre F 97 bis, κ(α)λ. On B. So CVA. 3/4 6. LM cup.

⁷² In this list, the alphabet is always Attic, except that in 8132 it is Ionic.

- κα: 7391: St. Petersburg inv. 1412, κ(α)ί. On A. So ABV. 3/4 6. Lip cup.
 κα: 7391: St. Petersburg inv. 1412, κ(α)ί. On B. So ABV. 3/4 6. Lip cup.
 κα: 7790: Tübingen E 157. κ(α)(λ)ό(ς). Together with better spellings. RF pyxis with lid. 3/4 5.
 λα: 8132: Würzburg 540, Γλ(α)ύκη. Achilles Painter. 3/4 5.

epsilon:

- δε: 2805: Boston 61.1073, τόνδ(ε). Neandros. 3/4 6. Band cup.
 δε: 5151: Munich 1415, (Π)οντ(ο)μῆδ(ε)α. Unattributed. 4/4 6.
 θε: 4233: London B 130, Ἀθῆνῃθ(ε)ν. Burgon Group. 2/4 6. Panathenaic prize amphora. Or phonetic? See above.
 θε: 1119: Athens, N.M. Acr. i, 1923, Ἀθ(ε)νάας. Dedicatory Dip. (bespoke vase). Fr. of BF cup. Unattributed. 3/4 6.
 φε: 5874: Oxford 189, Οἰκοφ(ε)λῆς. Potter/painter. 3/4 6.⁷³
 χε: 3817: Gioia del Colle ΜΓ 29, Ἀν]δρομά(χ)(ε). Leagros Group. 4/4 6.
 χε: 6909: Rhodes 10,527, Εὔχ(ε)ρος. Unattributed. Eucheiros potter. Ca. 550. Lip cup.

iota:

- πι: 1190: Athens, N.M. Acr. i, 2560+, π(ι)ει. Rycroft Painter. Late 6. εἶ τι τι π(ι)ει.
 φι: 2423: Berlin 2875, φ(ι)λίας. Unattributed. Fourth century.
 φι: 7020: Rome, Vatican 16,596. π(ι)ει, also π(ι)ει. Phrynos Painter. Ca. 550.
 χι: 4317: London B 418, Ἀρχ(ι)κλῆς. On side A only. Ca. 550. Lip/Gordion cup.
 χι: 4490: London E 107, Ἀρχ(ι)νος. Painter of London E 777 (Penthesilean). 2/4 5.

omicron:

- οο: 2221: Berlin 1756, Εὔχῆρ(ο)ς ἐποί(ο)ῃσεν.⁷⁴ Sakonides. 550–540. Lip cup.
 οο: 4287: London B 331, Καλ(λ)ιρ(ό)ε. Manner of Lysippides Painter. 530–520.

⁷³ It is important to realize that we are dealing with graphic images rather than sound patterns, whence the exact nature of the vowel is not relevant. I think that a grapheme *phe* or *che* would be close enough to the name of the letter.

⁷⁴ Beazley, JHS 52 (1932) 169, thought the extra omicron in the verb is that omitted by mistake in the name.

upsilon:

υυ: 2493: London B 331, Διονύσιος. Taleides Painter? 3/4 6.

alpha:

κα: 806: Athens, N.M. 1633, κ(α)λός? Or nonsense? Cartellino Painter. 480–470.

κα: 1443: Athens, N.M. Acr. ii, 863, κ(α)λός? (Beazley). Or: <κ>αλός, retr.? Unattributed. Date?

κα: 1984: Basel, Antikenmuseum BS 438, (π)(.)ιακ(α)(λ)ο(ς)? Bonn Painter. 1/4 5.

κα: 7944: Vienna, Kunsthist. Museum 3613, Κ(ά)λ(λ)ιπ(π)ος(?). Related to Tyrrhenian.
Or Κλ(έ)ιπ(π)ος. 3/4 6.

λα: 4478: London E 73, Γλ(α)ύκη? Or Γλύκη? Kleophrades Painter. Alphabet near Ionic. ±480.

λα: 7946: Vienna, Kunsthist. Museum 3618, Μενέλ(α)ος? Better: Μενέλ(ε)ός? Manner of Antimenes Painter. 4/4 6.

epsilon:

δε: 5148: Munich 1408, Τυδ(ε)ύς. Leagros Group. 510–500. But see above.

iota:

ξι: 6293: Paris, Louvre F 66, Ἀλεξ(ι)μα(χ)ος? Or nonsense. Very doubtful. 2/4 6. Siana cup.

σι: 2537: Bochum, Ruhr Uni. S 1165, Τελεσ(ι)ῆς? Unattributed. 2–3/4 6. Cf. 5366, Munich 8953 by Euphronios (Τελεσίῆς). See CAVI.

σι: 8107: Würzburg 474+, Σ(ι)βύρτας? Or Σατρυβς. Ambrosios Painter. 4/4 6. Uncertain reading, which Wachter rejects, n. 107.

φι: 6563: Paris, Louvre G 650, φ(ι)λε μου? Angular Painter. 2/4 5. Ionic lambda.

χι: 140: Amsterdam 2229, Χ(ι)λῶν? Or Χίῶν? Oltos. 4/4 6.

χι: 2324: Berlin 2278, Ἀχ(ι)λλεύς? Or Ἀχ(ι)λ(λ)εύς? Sosias Painter or Euthymides. 510–500.

omicron:

οο: 2731: Boston 03.842, Φερ(ό)φα[ττα]? Or Φερ(έ)φα[ττα]. Painter of Karlsruhe Paris. 410–400.

- qo: 7372: St. Petersburg 706, Χορ(ῶ)φέλῃς? Vase: Χορφέλες. Painter of Leningrad 702. 3/4 5. Cf. 7385.
 qo: 7385: St. Petersburg 823, Χορ(ῶ)φέλῃς? Vase: Χορφέλες. Dish Painter. 2/4 5. See 7372.

26 + 16

Total: 42

4. So-called syllabic heta

a. h<e>, with short e:

- 687: Athens, N.M., AA 1896, 36–38, h(ε)λ[ένη]. Mixed alphabet? Or less likely hε[λένη]? Unattributed. 2/2 5.
 875: Athens, N.M. 12,440, Mh(ε)λανόπῶ. Achilles Painter. Early. 3/4 5.
 942: Athens, N.M. A 8922, h(έ)ρση. Unattributed. 450–400. Ionic alphabet?
 1754: Athens, Ceramicus 2712, h(ε)λένῃ. Meidias Painter. 4/4 5.
 1754: Athens, Ceramicus 2712, h(ε)ρμῖονῃ. Meidias Painter. 4/4 5.
 2192: Basel Market (M.M.), Auktion 34, pl. 59/174, h(έ)κτωρ. Unattributed. 3/4 5.
 2689: Boston 00.344, Ἀντίθῃ(ε)[ος]. Aristophanes and Erginos. Late 5. Also h(ε)ρακλῆς, Θῆ(ε)σεύς?
 2800: Boston 34.79, h(ε)ρμῶ. Lykaon Painter. 3/4 5.
 2885: Brussels, Musées Royaux A 8, Mh(ε)λανόπῶ. Achilles Painter. 3/4 5.
 4001: Hildesheim 1253, Ἀθῆ(έ)νῃθῆ(ε)ν. Attribution? Late 5. Prize Panathenaic.
 4002: Hildesheim 1254, Ἀθῆ(έ)νῃθῆ(ε)ν. Attribution? Late 5. Prize Panathenaic.
 4608: London E 492, h(ε)ρμῆς. Villa Giulia Painter. 2/4 5.
 5034: Malibu L.87.AE.120, h(ε)ρμοθάλῃς? Early occurrence. Lydos. 550–540.
 This vase has a number of unusual names.
 5140: Munich, Oakley, Achilles Painter (1997) 142/209, h(ε)λικόν. Achilles Painter. 3/4 5. Ionic alphabet except in this name.
 5646: New York 27.122.8, h(ε)ρμῆς. Polion. 420–410. With h(ε)ρακλέης and h(έ)ρα, Ἀθῆν(α)ία. Mixed alphabet (signature is Ionic).
 5651: New York 28.57.23, h(ε)ρμῆς. Persephone Painter. 3/4 5. Also h(ε)κάτῃ. Mixed alphabet. But see GAI i, 46.

- 5651: New York 28.57.23, h(ε)κάτῃ. Persephone Painter. 3/4 5. Also h(ε)ρμῆς. Mixed alphabet.
 7008: Rome, Vatican 16,535, h(ε)λένη. Unattributed. 430–420. Ionic. But see GAI i, 46.
 7377: St. Petersburg 731, h(έ)ῶς. Lykaon Painter. 3/4 5.
 7597: Tarentum, Museo Nazionale, A. Lezzi-Hafter, Der Eretria-Maler (1988) 352/285 bis, h(έ)κτῶ. Eretria Painter. 430–420. Also h(ε)κάβῃ.
 7597: Tarentum, Museo Nazionale, h(ε)κάβῃ. Eretria Painter. 430–420. Also h(έ)κτῶ.

- 876: Athens, N.M. 12,441, Mh(ε)λανόπῳ? Uncertain. Achilles Painter. 3/4 5.
 3475: Ferrara, Museo Nazionale di Spina 2893, h(ε)ρμῆς? CVA, text: Ἡρμῆς. Peleus Painter. 3/4 5.
 4478: London E 73, Θh(έ)τις(?). Θητις. Kleophrades Painter. 1/4 5.
 4478: London E 73, "Aqh(ε)ος. "Αρηος. Kleophrades Painter. Near Ionic. Also Θh(έ)τις?
 But see Wachter, Kadmos 30, note 124: could be epic.
 5287: Munich 2423, h(ε)ρίας?? Ἡρίας?? ἡερ(μ)ίας?? Hypsis. 4/4 6.
 7552: Syracuse 21,186, Πh(ε)διῶς?? Or Πηδιῶς (? , gen.). GAI i, 39, 159; ii, 685. Achilles Painter. 3/4 5.

21 + 6

Total: 27

b. h<e>, with long e:

- 804: Athens, N.M. 1629, h(έ)βῃ. Eretria Painter. 430–420. Mixed alphabet.
 2007: Athens, N.M. 1629, h(ε)ρακλέῃς. Antimenes Painter. 4/4 6. Wrong in CAVI. See Wachter, Kadmos 30, n. 33.
 2689: Boston 00.344, h(ε)ρακλῆς or Ἡρακλῆς? Aristophanes and Erginos. 4/4 5. With Ἀντίθh(ε)[ος], Θh(ε)σεύς?
 2689: Boston 00.344, Θh(ε)σεύς. Or Θησεύς. Aristophanes and Erginos. 4/4 5.
 2690: Boston 00.345, h(ε)ρακλῆς. Aristophanes. Late 5. Also Θh(ε)σεύς or Θησεύς.
 2690: Boston 00.345, Θh(ε)σεύς or Θησεύς. Aristophanes. Late 5. Also h(ε)ρακλῆς.

- 4001: Hildesheim 1253, Ἀϑῆνᾱν ἐϋθῆν. Late 5. Attribution? Prize Panathenaic.
 4002: Hildesheim 1254, Ἀϑῆνᾱν ἐϋθῆν. Late 5. Attribution? Prize Panathenaic.
 5646: New York 27.122.8, ἡ(ῆ)ρακλέης. Polion. 520–510. With ἡ(ῆ)ρμῆς, ἡ(ῆ)ρα.
 Mixed alphabet (signature is Ionic).
 5646: New York 27.122.8, ἡ(ῆ)ρα. Polion. 520–510. With ἡ(ῆ)ρμῆς, ἡ(ῆ)ρακλέης.
 Mixed alphabet (signature is Ionic).
 5711: New York 56.171.23, ἡ(ῆ)ρακλῆς. Unattributed. 4/4 6.
 6169: Paris, Cab. Méd. 542, ἡ(ῆ)ρα. Douris. Late. 480–470. Could be Ἡρα? But Attic alphabet elsewhere.
 8001: Warsaw, National Museum 142,332, ἡ(ῆ)δ(ύν). Euthymides. [Or ἡδ(ύν)?]

The following examples are less probable than those queried above⁷⁵:

- 227: Athens, Agora P 44.+. Unattributed. Ca. 430. ἡ(ῆ)ρ[α]ιστος?
 Or eta?
 1470: Athens, N.M. Acr. ii, 105, ἡ(ῆ)[ρ]α[κλῆς]? Unattributed. Early fifth.
 3812: Germany, Private, J. Christiansen and T. Melander, eds., Proceedings of the Third Symposium on Ancient Greek and Related Pottery (1988) 107–109, figs. 1–9, ἡ(ῆ)[ρ]ακλέε(ς)?
 Or ἡ[ῆρ]ακλέε(ς)? Copenhagen Painter. 480–470.
 5345: Munich 2685, ἡ(ῆ)ρα? Or Ἡρα? Sabouroff Painter. 2/4 5.
 5580: New York 08.258.20, ἡ(ῆ)ρακλῆς? Or Ἡρακλῆς. Somewhat mixed alphabet. Pasithea Painter. Early 4.
 5876: Oxford 212, ἡ(ῆ)ρακλέους? Or Ἡρακλέους? Priam Painter. 4/4 6. Attic alphabet.

13 + 6

Total: 19

Both short and long he: 27 + 19: 46

⁷⁵ The reading ἡ(ῆ)ρακλῆς on CAVI 6268, Louvre E 852, a Tyrrhenian neck amphora by the Prometheus Painter that would be a very early Attic example, is listed by Wachter, *Kadmos* 30, 57 after GAI i, 46, but is given in CAVI with the epsilon extant and the remark that the readings are extremely uncertain; hence it is omitted here.

5. Omitted by error (Wachter's 'wrong' category):

alpha:

- βα: 4185: Leipzig T 3864, ἐνβ(ά)λῶ. Unattributed. 4/4 6.
 δα: 6464: Paris, Louvre G 121, ἡπποδ(ά)μα[ς]. So ARV². Douris. 1/4 5.
 δα: 7419: St. Petersburg St. 1790, Δ(α)ρ^αεῖος. Xenophantos Painter. 1/4 4.
 να: 2437: Berlin inv. 3139, Παν(α)ίτιος. On the Int. Panaitios Painter. Early 5.
 να: 2437: Berlin inv. 3139, Παν(α)ίτ[ιος]. Panaitios Painter. On A. Early 5. I.e., twice on this vase.
 να: 5153: Munich 1417, Ἀθῆν(α)ίας. Leagros Group. 4/4 6.
 να: 5603: New York 14.105.9, Παν(α)ίτιος(ς). Colmar Painter. 1/4 5.
 να: 5646: New York 27.122.8, Ἀθῆν(α)ία. Polion. 420–410. With ἡ(ε)ρμῆς, ἡ(ε)ρακλέης, ἡ(ε)ρα.
 να: 6824: Philadelphia Market, ARV² 34/9, Ἀθεν(α)ία(ς). Pioneer. 4/4 6.
 πα: 4705: London 99.7-21.3, Π(ά)τροκλος. Priam Painter. 4/4 6.
 πα: 5724: New York 1972.11.10, ἡίππ(α)σος. Euphronios. 515–510. See Pape; not in LGPN ii.
 πα: 5747: New York, Callimanopoulos, ARV 91/50, π(α)ῖς. Euergides Painter. 4/4 6.
 πα: 6411: Paris, Louvre G 36, π(α)ῖς. Name piece. 4/4 6.
 πα: 7707: Toledo 63.26, π(α)ῖς. Rhycroft Painter. 520–510.
 σα: 2336: Berlin 2291, Ἀλέχσ(α)νδρος. Makron. 1/4 5.
 σα: 3528: Florence, ABV 672, (Π)εισ(α)νδρ[ίδ]εῖς. Unattributed. 4/4 6 or 1/4 5. Six' technique.

epsilon:

- λε: 5321: Munich 2619a, Ἐπέλ(ε)ιος. Epeleios Painter. 4/4 6. Also correct.
 με: 6159: Paris, Cab. Méd. 526 (part)+, Διομ(ε)δῆς. Panaitios Painter. Ca. 500.
 με: 7282: Rome, Torlonia, Hesperia 27, 54 and n. 32. Μ(ε)νέλεος. Unattributed. 3/4 5.
 ρε: 2438: Berlin inv. 3151, Θῆρ(ε)υταί. Ca. 550. Ergotimos potter.

iota:

- ιι: 3230: Copenhagen, NM 112. Psiax. 520–510. Καλ(λ)ι(ι)όπα. See Beazley, AJA 54 (1950) 315.

- qu: 625: Athens, Agora P 24,102, Χαίρ(ι)ας. Painter of Agora Chairias Cups. 4/4 6.
 qu: 2140: Basel Market (M.M.), Para. 185/13 ter. Σμικρ(ι)ας. Unattributed. Late 6.
 qu: 3935: Havana, Museum 215, Χαίρ(ι)ας. Painter of Agora Chairias Cups? 4/4 6.
 qu: 7482: Siena, Marchese Chigi, ARV¹ 919, Χ(α)ιρ(ι)ας. Unattributed. 4/4 6.

omicron:

- ho: 2805: Boston 61.1073, h(ο)ῦτος. Neandros. 3/4 6. Band cup.
 ho: 4032: Once Joly de Bammerville, Edmond, ARV² 429/25, h(ο).
 Douris. 1/4 5.
 ho: 5592: New York 11.212.7, h(ο). Or h(ē)? Richter: η. Syleus
 Painter. 480–470.
 ho: 6973: Rome, Vatican 322, h(ο). Tleson. Lip cup. 3/4 6.
 lo: 799: Athens, N.M. 1593, καλ(ό)ς. Unattributed. 5th.
 lo: 1767a: Athens, Ceramicus PA 700. Fragmentary prize Panathe-
 naic, unattributed. 5th. τὸν Ἀ[θ]ῆ[ν]ων ἄθλ(ο)ν.
 lo: 2364: Berlin 2331, καλ(ό)ς. ho παλς καλ(ό)ς. Oionokles Painter.
 2/4 5.
 lo: 2386: Berlin 2529, κ(α)λ(ό)ς. Unattributed. Date? RF cup.
 lo: 2386: Berlin 2529, κ(α)λ(ό)ς. Unattributed. Date? RF cup. I.e.,
 twice on this vase.
 mo: 1748: Athens, Ceramicus 691, οἴμ(ο)ι. Unattributed. Ca. 510.
 mo: 7495: Stanford, Uni. Museum 70.12, [Τ]ριπτόλε(μ)ος. Manner,
 Kleophon Painter. 3/4 5.
 vo: 8076: Würzburg 319, Παρθεν(ο)πᾶος (Beazley). Psiax. 520–
 510.
 po: 71: Adria Bd 2, Ἀπ(π)ολλ(λ)όδοτος. Unattributed. 2/4 5.
 po: 5919: Ἀπ(ό)λλων. Villa Giulia Painter. 2/4 5.
 po: 6580: Paris, Louvre C 10,473, ἐπ(ο)ίεσεν. Epiktetos. Ca. 500.
 po: 7721: Toronto, Royal Ontario Museum 346, ἐπ(ο)ίεσεν. Teisias
 of Athens (a Boeotian pot). 4/4 6.
 po: 7810: Turin 4123, Π(ο)λλ(λ)ίδ. Euthymides. 4/4 6.
 so: 7497: Stockholm, N.M. Ant., Para. 183/22 bis, λῦσ(ο)ν. Unat-
 tributed. 1/4 5.
 to: 844: Athens, N.M. 2350, Ῥάστ(ο)ρος. Or [Κ]άστ(ο)ρος?
 Sotheby Painter. 2/4 5.
 to: 3589: Florence 73,131.+, [Εὐ]ριπ(ό)λεμος [sic]. Apollodoros.
 Early 5.

το: 5151: Munich 1415, (Π)οντ(ο)μέδ(ε)α. Unattributed. 4/4 6.
 χο: 2326: Berlin 2280 – 2281.+, Ἀστύοχ(ο)ς. Onesimos? Early 5.

upsilon:

ηυ: 2221: Berlin 1756, ηυη(ύ)ς. Eucheiros potter. Painter Sakonides.
 3/4 6. Lip cup.

alpha:

δα: 8092: Würzburg 408, Ἀσφονίδ(α), χαῖρε? 3/4 6. Lip cup. Or
 Ἀσφονία (voc.), χαῖρε.

φα: 2320: Berlin 2273, ἡεφ(α)ι[σ]τος? Or Κεφι[.]τος? Ambrosios
 Painter. 510–500.

μα: 129: Amsterdam 301, [Ἀντί]μ(α)χ[ος]? Diogenes Painter. 4/4
 6. A hand intervenes between mu and chi.

ξα: 4511: London E 157, Ἀ(λ)εξ(ά)νδρῃ? (Αεξνδρε). Ἀλεξ(ά)νδρῃ
 (Bothmer). Alexandre Group or Painter. 3/4 5.

epsilon:

νε: 993: Athens, N.M. Acr. i, 816, Ἐχσέκ(ε)στος? Unattributed.
 3/3 6. LGPN ii says vase has Εσχεκετος.

λε: 2469: Berlin inv. 3322, καλ(έ)? Less likely καλ(ός), καλ[ός]?
 Two-row Painter. 2/4 5.

λε: 7944: Vienna, Kunsthist. Museum 3613, Κλ(έ)ϊπ(π)ος? Related
 to Tyrrhenian. Or Κ(ά)λ(λ)ιπ(π)ος? 3/4 6.

λε: 7946: Vienna, Kunsthist. Museum 3618, Μενέλ(ε)ῶς? Or Μενέ-
 λ(α)ος? Manner of Antimenes Painter. 4/4 6.

με: 5251: Munich 2243, μ(ε) ἔς? 'let me be'? Probably nonsense.
 Archikles. Band cup. 550–540.

νε: 2676: Boston 98.933, Φαν(έ)ας? So LGPN ii. Vase: Φανας.
 Foundry Painter. 1/4 5.

ρε: 2731: Boston 03.842, Φερ(έ)φα[ττα]? Or Φερ(ό)φα[ττα]. Painter
 of Karlsruhe Paris. 410–400.

τε: 2225: Berlin 1761, Γλαυκύτ(ε)ς? Or Γλαυκύτ(τ)(ε)ς? On B. 3/4
 6. Plain Lip cup.

eta:

τη: 1866: Athens, Pnyx P 270, [---κ]ράτ(η)ς? Unattributed. 4th. Prize
 Panathenaic. Or [---κ]ράτῆς?

iota:

τϰ: 4884: Madrid 10,916, Ἀντ(ι)φῶλο(ς)? Sappho Painter or near. Late 6.

omicron:

μo: 3270: Copenhagen, Thorwaldsen Museum 101, Εὐνόμ(o)ς? Or nonsense? Group of Polygnotos. 3/4 5.

vo: 1077: Athens, N.M. Acr. i, 1632, Εὐθῆν(o)(ς)? Unattributed. 3/4 6. Band cup.

46 + 16

Total: 62

Appendix 2: Groups of Letters Duplicated, Reversed or Omitted

Consonant + vowel:

1881: Athens, Triti Ephoria A 1877. RF pyxis with lid. Calliope Painter. 4/4 5.
Κυμοδό(δο)κῆ.

Vowel + consonant:

1052: Athens, Acr. i, 1401. Fr. of BF skyphos. Unattributed. 3/4 6.
Σῶσία(ς){ας}. Dedicatory graffito.

2275: Berlin 2010. BF lekythos. Unattributed. Date?
In large letters over the whole scene: επαλκαλε. This could be (if it makes sense): Ἐπάλκ(αλ)ῆ. Or possibly Ἐπάλ(κῆ) καλέ, although no such *kale*-name is listed. Hardly ἔπαλ(ς) (for παῖς) καλέ.

4546: London E 271. RF Nolan amphora. Peleus Painter. 3/4 5.
Μέλ(ελ)ῶσα.

5259: Munich 2308. RF amphora. Euthymides. 4/4 6.
Εὐθυμίδε(ς){ες}.

Two vowels:

2809: Boston 63.119. BF terracotta ball. Unattributed. Ca. 500.
Gr: ἡὸς ἔοικεν ἀπὸ τῶν ἐρίων ἔναι{αι}. This graffito is probably an addition by the user rather than by the vase painter.

4052: Karlsruhe B 2596. BF lip cup. Unattributed. 3/4 6. A: χαῖρε καὶ πίει{ει} εὖ :.

- B: χαῖρε καὶ πῖει εὔ. The interpoint on A is given by Beazley in JHS 52, 180, but not in CVA or Wachter, Kadmos 42, 148/17.
- 5839: Ostermundigen, Blatter. Fr. of BF lip cup. 3/4 6. B: χαῖρε καὶ προῖ(ῖο) ἐμέ. Written correctly on A. Slightly differently Wachter, Kadmos 42, 168/122.
- 6866: Providence, Rhode Island School of Design 1934.858. BF lip cup. Unattributed. 3/4 6.
A: χαῖρε καὶ πῖ(ει) τένδε. B: χαῖρε καὶ πῖ(ει) τένδε. Cited above, p. 160.

More than two letters:

- 4722: London 1910.6-15.2. RF oinochoe (chous). Unattributed. 2/4 5. Attic Script 100, no. 681 (a different reading).
Three lines of writing in BG on a two-stepped tripod base:
on the top step: δγημελος | αριριλος. Continuation on the bottom step: τος φιλος.
In CAVI I suggest: ΔΓΗΜΕΛΟΣ | ἄρι(ριλο)σ | τος φίλος.
The name is miswritten.
- 5307: Munich 2604. BF/RF eye cup. Oltos. 4/4 6.
Μμεμεμνον κ[αλ]ός. I.e., M{μεμ}έμνῶν.
- 6846: Princeton 29.180. BF skyphos. Unattributed. Kritomenes(?) or Klitomenes(?) potter.
A: Κριτομεσεν for Κριτομένες. B: ἐποιῆσεν {σ}.
This is somewhat different from the other examples in that it involves the reversal of a syllable (see below). There may also be influence of the ending of ἐποιῆσεν. The rho is uncertain.
- 6461: Louvre G 118. RF cup. Douris. 1/4 5.
Δῶρις ἔγραψεν : Χαιρέστ{ρεστ}ρατος καλός.⁷⁶
- 7683: Thera, Museum. BF amphora with triple handles. Unattributed. 3/4 6.
Graffito on BG rim: σᾶμα {τεοσ} Τιμοστένεος. This was of course not produced in the workshop but locally in Thera.

⁷⁶ The duplication is certain (the doubts in CAVI are mistaken): it is found in ARV² 430/35 but not in Buitron-Oliver, Douris (1995) 76/58, pl. 42; however, her photograph suggests that there was enough room for Beazley's reading in ARV². In 1947, I read from a photograph in Beazley's possession: Δ[ῶ]ρ[ι]ς ἔγραψεν : Χαῖρ^εστρεστρατος καλός. This agrees with the traces visible in Buitron-Oliver's pl. 42, especially the position of the kappa of καλός, which is clearly visible in her photograph and which I had not noted in the (different) photograph I was using in CAVI (q.v.), which should be corrected.

Sometimes a group is omitted:

- 1981: Basel, Antikenmuseum BS 435. BF neck amphora. Antimenes Painter. 4/4 6.
 ᾠΑρ{ε}τεμ{ις}, for ᾠΑρτεμς.
- 2472: Berlin inv. 3680. BF band cup. Elbows Out. 3/4 6. Handle zone: A: χ(α)ῖρε καὶ πί(ει). B: χαῖρ(ε) and καὶ π(ί)ει. Both inscriptions fill the available space exactly; in each case the last group of letters is omitted. See also Kadmos 42, 161/82, and cf. 4214, below, by the same painter.
- 2519: Bern, Private. Add.² 402. Fr. of BF lip cup. Probably Tleson Painter. 3/4 6.
 Τλῆσδν <ho N>εάρχῶ ἐποί[εσεν]. Or ἐποί<εσεν>? The painter has skipped from the ending of Τλῆσδν to the letters following the second -ov.
- 3019: Cambridge, Fitzwilliam Museum 68. BF LM cup. Mule Painter (Schauenburg). 3/4 6.
 Handle zone: A: χαῖρε : καὶ <πί>ει εῦ. B: χαῖρε : κ[αί] <πί>ει εῦ.
- 3093: Capua inv. 7556. BF amphora. Unattributed (perhaps Antimenean). 4/4 6.
 A: Heracles and the Amazons. From the mouth of a fallen Amazon: (φ)ῖλτε, retr. I would suggest φίλτ<ατ>ε, since Φίλτη is an unsuitable name for an Amazon.
- 3804: Germany, Private. BF lip cup. Mule Painter (Schauenburg). See Wachter, Kadmos 42, 148/14.
 Handle zone: A: χαῖρε : καὶ <πί>ει εῦ. B: χαῖρε : καὶ <πί>ει εῦ.
- 4214: Limassol, Kakoyannis. ABV 251/39. BF lip cup. Elbows Out. 3/4 6.
 Handle zone: A: (χ)αῖρ(ε) καὶ πί(ει) τ(ῆ)νδ(ε). B: χαῖρ(ε) καὶ πί(ε)ι τ(ῆ)νδ(ε).
 After B. Fellmann, AM 99 (1984) 156ff., pl. 24,1–2 who points out that the epsilons lack the bottom hasta and sometimes resemble rho's, whence the rendering in ABV 251/39. A different reading in Wachter, Kadmos 42, 157/64 where the dots under the epsilons are misleading. Cf. 2472, above, by the same painter.
- 6275: Louvre E 875. BF dinos (Tyrrhenian). ca. 550. ᾠΑνδρομάχῃ. But some names on this vase are odd and perhaps not well reported.
- 6335: Louvre F 125. BF/RF eye cup. Group of Louvre F 125. 530–520.

Int.: starting between a komast's legs and curving upward to his left shoulder: <Νι>κοσθ[^]ένεζ [^]ἐποί<ε>σεν.⁷⁷

There is enough surface preserved to show that the beginning and end of the inscription were never written.

6417: Louvre G 42, RF amphora. Phintias. 510–500. Apollo and Tityos with Apollo, Leto and Artemis. To Artemis' lower right, starting below her elbow, down: <Ἀρτέ>μιδο(ς).

This reading was proposed by Jahn (in the Munich catalogue) and Panofka, although Jahn later recanted. Hauser in Furtwängler-Reichhold ii, 273 n. 1, however, followed de Witte in reading Αἰδώς and Reichhold on pl. 112 did indeed draw a high-kicking alpha (alpha 9 in the chart, p. xxii of Attic Script). This has been rather widely accepted and has led to much speculation; see D. L. Cairns, Veiling, αἰδώς, and a red-figure amphora by Phintias, JHS 116 (1996) 152–58, pl. 1 (A, B) (full bibl.) and Attic Script 66, no. 385. I think the painter has simply neglected to fill in the group of letters above Artemis' elbow.

The last two items are remarkable in that they suggest that in each case the painter is copying groups of letters from a model.

6678: Louvre CA 2526. RF cup. Unattributed. 4/4 6. Παν(φ)αῖος <ἐποί>εσεν. One group of letters omitted to fit the available space.

7943: Vienna, Kunsthistorisches Museum 3607. BF/WG neck amphora. Unattributed.⁷⁸ Early 5. <Ἀχ>ὺ<λ>έος, together with a number of nonsense inscriptions. Clearly by an illiterate.

Or the letters are reversed:

151d: Amsterdam, Allard Pierson Museum RALS 801a–b (loan). Fragmentary BF band cup. Circle of Amasis Painter (P. Heesen). Ca. 550.

ἡῆρακ{ε}λῆς, retr., perhaps for ἡῆρακλέῃς; hence read: ἡῆρακ(ἔλ)ες.

2107: Basel Market (M.M.). Para.77/1. BF lip cup. Group of Vatican G 61. 3/4 6.

⁷⁷ The gap between the words is very slight; that following the theta is caused by a leg intervening.

⁷⁸ Haspels (cf. ABV 319/10): not far off the Diosphos Painter in style and decoration; mock inscriptions in the manner of the Sappho Painter.

- A: χαῖρε καὶ πια ετνδε. B: the same.
- 3802: Germany, Private. Bothmer in W. Hornbostel et al., *Kunst der Antike* (1977) 251/233. BF Tyrrhenian neck amphora. O.L.L. Group. 2/4 6.
Μενμον for Μέμνων.
- 4118: Laon 37.1029. RF pelike. Follower of Washing Painter. Ca. 430.
A: two shield devices: Ἀθ(ἔ)Ϛ. (Ἐ)αθ. The second epsilon lies sideways. The second inscription is Ἀθἔ miswritten.
- 7025: Rome, Vatican G 61. BF lip cup. Group of Vatican G 61. 3/4 6.
A: χαῖρε καὶ πια ετνδε. B: the same.

If the reports on 2107 and 7025 are correct, it looks to me as if the painter was following a model in which the first two letters of τένδε had been transposed (for the form πια see the note).⁷⁹ The same seems to be the case with the repeated omission of π in CAVI 3019 and 3804, by the Mule Painter, except that this may have been facilitated by abbreviated writing.

Finally, a single letter may be substituted for another because of its similarity in shape, e.g.:

- 3083: Cannes, Private. S. B. Matheson, *Polygnotos and Vase Painting in Classical Athens* (1995) 355/P42.
RF neck amphora with twisted handles. Polygnotos. 3/4 5.
Τ[ριπ]τολενος, for Τριπτόλεμος.
- 5801: Orvieto, Museo Civico, Studi Etruschi 30, pl. 40,b. RF cup.
Unattributed. 4/4 6.
καλὸς Τλεμπολενος, for Τλεμπόλεμος.

⁷⁹ 2107 has now been published by R. Wachter, *Χαῖρε καὶ πῖει εϚ*, *Indo-European Perspectives: Studies in Honour of Anna Morpurgo Davies* (ed. J. H. W. Penney, 2004) 300–22; see note 4 and p. 301, fig. 22.1, and *Drinking Inscriptions on Attic Little-Master Cups: a Catalogue*, *Kadmos* 42 (2003) 159–76. I have corrected the text of CAVI accordingly. 7025 is mentioned in the Davies festschrift in note 4 and in *Kadmos*, 158/73, where the readings of Beazley in Para. and that in CAVI (which depended on it) are corrected from Beazley and Magi, *La raccolta Benedetto Guglielmi* (1939) 56–61. This also has been corrected here. The two vases are no doubt by one hand. – The form πῖαι is explained by Wachter on p. 310 of the Davies volume as non-Attic. But in view of the large size of alpha on both sides and considering the other error, it could also be that the painter has repeated the letters AI from the preceding καί.

Note that archaic M and N can be very similar; M has merely an extra stroke.

Appendix 3: Notations Under The Glaze Of Unclear Purpose

2799: Boston 33.56: Fragmentary RF volute krater. Niobid Painter. Mid 5.

Body: A: to left of the neck of a woman in center: graffito before firing and covered with glaze: a vertical N.

4183: Leipzig T 3840.+ Frs. of RF skyphos. Kleophrades Painter (D. Williams); “may be”, Beazley. 1/4 5. Numerous frs. in Leipzig and Malibu.

On the glaze, sense inscriptions. Under the glaze, on two frs., nonsense inscriptions in a different style: Leipzig 3840b: [--] ov(.)[--]. Malibu 86.AE.270.2: [--]vove (the epsilon face-down).

D. Williams in J. H. Oakley et al., *Athenian Potters and Painters* (1997) 196ff., esp. n. 44, points out that this type of nonsense inscription is Brygan and he speculates on how these letters came to be in the “preliminary sketch”. Since the vase has good name labels written over the glaze, it is clear that two hands are involved and that the nonsense inscriptions were not intended for the decoration ultimately placed on the vase.

7779: Tübingen E 109a. RF pelike. Aison. 4/4 5.

A: youth and woman. B: youth.

Under one handle, graffito before firing and under the glaze: Νέαῖα. No other inscriptions.

Perhaps intended as a reminder that a *kale*-inscription of a certain Neaira was to be added. Differently, however, CVA, Tübingen 4, p. 35: The vase perhaps commissioned for a hetaera of this name (earlier than the famous fourth-century hetaera), since the graffito was incised before firing). Drawing ibidem, 35 fig. 7.

7948: Vienna 3691. RF cup. Epidromos Painter. 4/4 6.

Int.: Hermes with kerykeion to left, leading a dog disguised as a pig to sacrifice. There is a preliminary sketch on the Int., upside down to the final picture and figuring a naked figure walking to right, i.e., the sketch was for a different subject which was never executed.

I wonder if the same applies to the mysterious inscription under the glaze on:

5578: New York 07.286.81. RF bell krater. Achilles Painter. 2/4 5.

A: Warrior and Man (Tereus and Pandion?). B: Nike greeting a wreathed youth with spears and petasos.

A: to left of warrior's middle, horizontally, graffito in soft clay under the glaze: Τελεω, retr. B: on the glaze, to right of Nike's forehead, stoichedon and horizontal: καλῶς | Ἐγέλεως.

The graffito has been variously explained (see CAVI): G. Richter: gen. of Τελέας; or for τέλεος, sc. ὁ κρατήρ or τέλεον, sc. τὸ ἀγγεῖον. Beazley: the warrior may be Tereus, hence the inscription is for Τηρεω, genitive of Τήρης, a variant of Τηρεύς. (But Robertson thinks the figure may be Philoctetes rather than Tereus.) I had suggested: miswritten for [Ε]ΓΕΛΕΩ(Σ); but the retrograde is perhaps rather against this identification. I now think that the graffito is probably unrelated to the existing decoration.

Bibliographical Abbreviations

- ABV: J. D. Beazley, *Attic Black-figure Vase-painters* (1956)
 ARV²: J. D. Beazley, *Attic Red-figure Vase-painters*² (1963)
 CVA: *Corpus Vasorum Antiquorum*
 Furtwängler, *Beschreibung*: A. Furtwängler, *Beschreibung der Vasensammlung im Antiquarium* (1885)
 Furtwängler–Reichhold: A. Furtwängler, K. Reichhold, et al., *Griechische Vasenmalerei* (1904–32)
 Graef–Langlotz: B. Graef and E. Langlotz, *Die antiken Vasen von der Acropolis zu Athen* (1925–33). Vol. 1 is by Graef, vol. 2 by Langlotz
 GAI i and ii: L. Threagte, *The Grammar of Attic Inscriptions*. i: Phonology (1980). ii: Morphology (1996)
 Haspels, ABFL: C. H. E. Haspels, *Attic Black-figured Lekythoi* (1936)
 LGPN ii: M. J. Osborne and S. G. Byrne, eds., *A Lexicon of Greek Personal Names* ii (1994)
 M. M.: *Münzen und Medaillen*
 Para.: J. D. Beazley, *Paralipomena: Additions to Attic Black-figure Vase-Painters and to Attic Red-figure Vase-painters*² (1971).

Abstract

The paper attempts to furnish guide lines for the assessment of the writing ability of individual vase painters by distinguishing certain practices from errors caused merely by carelessness. While basic errors in letter forms and spelling show that a minority of painters were truly illiterate, a much larger number had difficulty writing accurately what they heard in the spoken language. Evidence for it comes first of all from writing in groups of letters without regard to word separation, as shown by the repetition, omission or otherwise distortion of such groups. This includes the omission of vowels that are part of the names of consonants (so-called Abbreviated Writing), but is not confined to it. Another aspect is the reliance, common among vase painters, on sources that could serve as models, usually other vases. While this is often merely a matter of practicality, errors in copying can sometimes suggest that the copier needed to copy because he was not fully competent. The best evidence in this respect are instances where individual letters are miswritten and words are also misspelled.