A Plato Papyrus with Shorthand Marginalia

Kathleen McNamee

THE ONLY SURVIVING PAPYRUS of Plato's *Republic* Book 8 with explanatory marginalia is *P.Oxy.* XV 1808.¹ On the grounds of palaeography, the first editors dated both notes and text to the late second century A.D. The annotations turn out to reveal important new information about two very different subjects, ancient tachygraphy and the "nuptial number" of *Republic* 546B–C. Plato's notorious obscurity in this passage and the annotator's idiosyncratic use of abbreviations and shorthand have always hampered efforts to understand the notes.² Even the expert editors of the papyrus—first

²On Greek tachygraphy in general see, principally, Wessely, Mentz¹⁻⁴, Milne, H. Boge, *Griechische Tachygraphie und tironische Noten* (Hildesheim 1974), H. C. Teitler, *Notarii und Exceptores* (Amsterdam 1985). Pack² lists shorthand texts as 1619, 2753–2779, and 2779a. Add W. Clarysse *et al.*, *Leiden Database of Ancient Books* (see <ldab.arts.kuleuven.ac.be>) 1998.4659, 4674, 4707, 4865, 4866, 4943, 5014, 5027, 5030, 5240, 5265, 5427, 5527, 5528, 5561, 5574, 5604, 5624, 5625, 5782, 5830, 5853, 5936, 6087, 6088, 6104, 6270, 6286, 6354, 6393, 6640, 7071, 7089. Texts not included in these catalogues (for the first two references I am grateful to G. Menci): H. Boge, *Die Entzifferung griechischer Tachygraphie* (Kurzber.Giess.Papyr. 36 [Giessen 1976]) 19–20 (nos. 1–4); PSI inv. 3058, "Papiri dell' Istituto Papirologica G. Vitelli," *Quad. Accad. Arti del Disegno* 1 (Florence 1988) 10; PSI inv. 2013: M. Manfredi, "Frammenti di un' orazione

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¹The following will be cited by authors' names: R. CRIBIORE, Writers, Teachers, and Students in Graeco-Roman Egypt (Am.Stud.Pap. 36 [1996]); G. MENCI, "Il Commentario tachigrafico," Pap.Congr.XIX (Cairo 1992) 451–465; A. MENTZ¹⁻⁴, ArchPF 8 (1927) 34–59, 11 (1933) 64–73, 13 (1939) 61–75, and Ein Schülerheft mit altgriechischer Kurzschrift (Bayreuth 1940); H. J. M. MILNE, Greek Shorthand Manuals (London 1934); C. WESSELY, "Ein System altgriechischer Tachygraphie," DenkschrWien 1896.4.

Grenfell and Hunt in 1922, then Haslam in 1999³—did not fully recognize the wealth of its contents. While preparing a corpus of annotations in ancient papyri, I looked again at these notes. Thanks to the generous help of colleagues, including John Oates, and thanks also to a measure of good luck, I can now explain some of the more elusive symbols. In what follows, I provide, for the first time, a complete table of the tachygraphic symbols in the papyrus, and I discuss how they deviate from other testimonia. I also hazard an explanation for what I think the most interesting puzzle in the papyrus, namely, why tachygraphy appears here at all. Shorthand, after all, is out of place in purely literary texts.⁴ In some way, these symbols link the literary world with the documentary. As a literary papyrologist, I am therefore pleased to offer my work on this hybrid text to John Francis Oates, who has devoted his scholarly life to the study of documentary papyri. It is sweet to return something to a man who has been a respected teacher and an enduring friend and colleague.5

giudiziaria," Studia Florentina Alexandro Ronconi sexagenario oblata (Rome 1970) 207–219 (= Pack² 2771 with a new reading at Menci 456–457); P.Brem. 82; Stud.Pal. VIII 70–73 (Mentz² 70–73); P.Prag. inv. Gr. 14 fol. 17 (Mentz³ 71–72); CIL III 8899 (Mentz³ 72–73); BGU III 840–841 (Mentz³ 74–75); CIG III 4763 (Baillet, I.Syringes 1862; Mentz⁴ 39).

³M. W. Haslam, *Corpus dei papiri filosofici greci e latini* I.1 (Florence 1999) Plato 72 (a new edition of the papyrus and its notes).

⁴If we exclude as subliterary the many surviving manuals (*supra* n. 2), only one other literary text with shorthand survives, the oratorical papyrus PSI inv. 2013. Two tachygraphic symbols, unaccompanied by other writing, are preserved at two places in the margin. One reproduces a phrase ($\pi \rho \delta c \ \delta c \ \tau o (\tau \sigma c)$), the other an ending ($o \alpha c w$), and they appear in two different parts of the text. They are not explanatory notes such as we find in the Plato, but possibly section markers, although the choice of these particular signs is puzzling, since neither stands for a salient expression in the text.

⁵I am separately preparing a new edition of the notes and an analysis of their philosophical significance with Michael L. Jacovides, who first drew attention to the fact that one of the newly read symbols

Tachygraphy

Presumably those who learned tachygraphy did so in order to speed note-taking during oral presentations such as legal proceedings.⁶ As in the case of modern stenography, however, the notes they took had to be transcribed into legible Greek by the note-takers themselves if anyone else was to have access. The typical stenographer of the late second century must have begun his instruction, then, by learning the same things that the eventual student of $\gamma \rho \alpha \mu \mu \alpha \tau \iota \kappa \eta$ would learn: how to write and read the alphabet, the syllables, and eventually whole words, phrases, and longer passages. Several of the elements of Greek shorthand are based, in fact, on the forms of letters.⁷ After this elementary phase, he presumably began his study of the *notae*, or shorthand symbols.⁸

Both parts of his training may have been with the same teacher, the $c\eta\mu\epsilon\iotao\gamma\rho\dot{\alpha}\phioc.^9$ Less likely, he began his studies with a $\gamma\rho\alpha\mu\mu\alpha\tauo\delta\iota\delta\dot{\alpha}\kappa\alpha\lambda oc$, for this person's job was principally to teach the basics of literacy to children and prepare them for the study of the great authors with a grammarian.¹⁰ There may have been some

unlocks information important for understanding the passage. As it happens, this particular sign turns out to be not shorthand at all, as previously thought, but the sign that routinely stands for $\check{\epsilon}\tau\eta$ in documentary papyri (see n.27 *infra*).

⁶R. A. Coles, *Reports of Proceedings in Papyri* (Brussels 1966), considers the evidence for a link between the adoption of shorthand in Graeco-Roman Egypt and the first appearance of *oratio recta* in Roman reports of proceedings.

⁷Milne 2; Mentz⁴ 24–27. Learning to write preceded learning to read: Cribiore 148–150.

⁸Fulg. *Myth.* 3.10, *in omnibus artibus sunt primae artes, sunt secundae; ut in puerilibus literis prima abecetaria, secunda nota:* "In all arts there are the first arts and there are the second. Just as in a child's learning of letters the alphabet comes first, and secondly the *nota*" (cited by Mentz⁴ 7).

⁹ **c**ημειογράφο**c** : *P.Oxy*. IV 724.2 (A.D. 155).

¹⁰Cribiore ch. 2, "Evidence for Schools and Teachers."

crossover, of course, which our sources do not document. It is not impossible, for example, that some $\gamma \rho \alpha \mu \mu \alpha$ τοδιδάςκαλοι earned extra income by teaching the principles of shorthand, or that cημειογράφοι did the same by teaching the alphabet to future students of literature. School texts record the occasional encroachment of the two levels of literary instruction upon each other, particularly in villages where resources for supporting grammarians may have been meager. School papyri also reveal the existence of private teachers, $\kappa\alpha\theta\eta\gamma\eta\tau\alpha i$, whose portfolios varied according to their clients. Conceivably, then, students of elementary shorthand occasionally found themselves taught by the same teachers who prepared students for liberal education. Occasionally, I suppose, they may even have found themselves in the same classes. But I doubt that this happened much. Separation of prospective stenographers from those intended for a literary education was probably the norm, at least in cities. The reason has to do with privilege. Shorthand was a useful skill that could help a man earn an income if he was free or, if he was slave, could furnish him expertise his master could use. Literature and the preparation for studying it—not technical studies—occupied the full attention of children in the grammatical track and prepared them ultimately for public life.¹¹ Because the distinction between the two pursuits was so stark and so largely based on status, it is unlikely that the two kinds of students mixed very often in the same elementary schools.

I stress this because although shorthand might seem to

¹¹Quint. Inst. 1.8.5–12; T. Morgan, Literate Education in the Hellenistic and Roman Worlds (Cambridge 1998) esp. 67–89; S. Bonner, Education in Ancient Rome (Berkeley 1977) 189; R. Kaster, Guardians of Language (Cambridge 1988) 11–12.

us a useful skill for students who wished to take notes while γραμματικοί lectured (this would easily explain the presence of shorthand in a copy of Plato), the fact is that tachygraphic explanatory notes appear nowhere else among literary papyri. Annotations linked to the grammatical tradition are of course fairly abundant. But the abbreviations in them follow a system completely different from what we find in the ancient shorthand system.¹² It is possible that shorthand eventually found its way, in late antiquity, into the educational curriculum of the upper classes. Libanius laments the lively interest, in fourthcentury Antioch, in this servile practice which, in his opinion, students pursued at the expense of traditional rhetorical education.¹³ A knowledge of shorthand could entail certain privileges, and the title notarius brought with it a certain prestige.¹⁴ In Egypt at the time that the Plato was written, however, and throughout the period covered by the papyri, there is no trace of shorthand anywhere else in marginal comments in literary texts.¹⁵

A student of tachygraphy, once he had mastered the basics of writing Greek, moved on to a two-part course.¹⁶ The structure of this course will have evolved over time,

¹⁶On how the system worked, see Mentz³ 61–75 and Mentz⁴ ch. 2.

¹²K. McNamee, *Abbreviations in Greek Literary Papyri and Ostraca* (*BASP* Suppl. 3 [1981]). The notes of the Plato contain a large number of abbreviations of this kind in addition to shorthand; see n.27 *infra.*

¹³ Lib. Or. 18.131, τέχνην ἔχοντες τὴν τῶν οἰκετῶν; cf. Or. 31.28, 33.

¹⁴On the νοτάριο c (*notarius*, one with a knowledge of tachygraphy) of later antiquity, see Teitler (*supra* n.2) ch. 4–5. Teitler sees the change in status of people with command of shorthand as arising from the important role they must have played in the burgeoning imperial bureaucracy. Their constant presence will have been essential for the recording of orders and the like, and this will have led to intimacy within the circle around the emperor.

¹⁵In fact, the literary papyri of late antiquity provide some of the most explicit evidence for the copying of marginal notes from written—not oral—sources: K. McNamee, "Another Chapter in the History of Scholia," *CQ* 48 (1998) 269–288.

since the first components appeared about the middle of the first century A.D. and there is considerable variation in the surviving evidence.¹⁷ The elementary portion of the course was itself organized into three groups of simple signs to be memorized. The Syllabary ($c\nu\lambda\lambda\alpha\beta\alpha$ i) was a methodical listing of signs for vowels, diphthongs, and syllables that begin or end in certain consonants.¹⁸ The "Monobolai" ($\mu ovo\beta o\lambda\alpha$ i), which are imperfectly preserved, represented whole words and short phrases.¹⁹ The Endings ($\pi\tau\omega c \iota c$) consisted of signs for inflectional endings. The remains of this group too are incomplete.²⁰

Once these elements were mastered, a student was ready to memorize the Commentary ($\kappa o \mu \epsilon v \tau \alpha \rho \iota o v$), an ordered table of hundreds of compound signs built of components from the other lists.²¹ Each entry here consists of two parts. The first is a sign with its essential

¹⁸Wessely pl. 1 no. 1 (P.Rain.: Pack² 2753); since the material directly above the label cυλλαβαί consists of symbols for phrases, not for syllables, the word may have had fairly general application. *Cf.* also the end-title τέλοc τῶν cυλλαβῶν at Milne p.18 (Antinoe Papyrus 1 fr. 2 recto: Pack² 2761).

¹⁹τέλος τῶν μονο[β]όλω[ν], with the final portion of a list at Milne p. 69, with pl. VIII (Antinoe Papyrus 1 fr. 1 recto).

²⁰τέλ]ος τῶ[ν πτώ]ςεων, Milne p.15 (Antinoe Papyrus 1 fr.11 recto).
²¹κομεντάριον, Milne p.67 (BM inv. 2561 fol. 23 verso [Pack² 2760]; P.Oxy. IV 724.8).

¹⁷Mentz⁴ 52–53 considered that Greek shorthand came into being at roughly the same time as Latin shorthand, but he avoided establishing priority. As we have seen (*supra* 99), it originated in the creation of notes for common words from portions of capitals or cursively written letters. The creation of a systematic syllabary followed, about the beginning of the first Christian century, and then, about A.D. 50, the creation of the Commentary. Certainly it reached Egypt by the first century A.D., for we find it used already in an inscription of A.D. 103 (*CIG* 4763, Mentz⁴ 39–40). It was then regularized in the course of the third century, when it assumed the form represented by Milne, although variant versions still circulated (Menci Table 2). Mentz also demonstrated (Mentz⁴ ch. 4) the survival of deviant Syllabaries in the third to the sixth century—a caution against the assumption that any regularization was absolute. The system had its greatest flowering, finally, in the governmental and ecclesiastical bureaucracies of late antiquity (*supra* n.14).

meaning written above it. It is accompanied by several symbols from the elementary tables.²² Presumably because the original number of these supplements was four, the resulting compound symbols are often called tetrads, even though up to eight additional elements were sometimes added.²³ In the sign known as Milne 36, which survives as both tetrad and pentad, the principal element is a large lambda which stands for $\lambda i \alpha v$.²⁴

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The second component of each entry in the Commentary is a list at the right giving new meanings the principal element assumes when paired with one of the secondary elements. Milne 36 engenders:

λαβών ἐπιςτολήν προςφωνεῖ ςυντομῶς πιττάκιον

The words in such a list have endings which match the ending-signs around the principal symbol, and their order corresponds to the clockwise order of those signs. Clearly adjustments had to be made as the lists grew and more supplementary signs were included: in our instance, as in other pentads, for example, the fifth ending-sign was written across the center of the principal sign. A tachygrapher, then, could use Milne 36 to represent $\lambda \alpha \beta \omega \nu$ as Σ

²²Some secondary signs are visible in Milne's photographic plates, although he chose not to reproduce them in his text. Wessely and Mentz provide complete artists' renderings.

²³Milne 3, cf. Basil De virgin. 33 (PG 30.733) ώς ό τὴν σημειογραφικὴν τέχνην μαθών, ... τοὺς τύπους τῶν ὀκτάδων φέρει καὶ τετράδων ἐν τῆ ψυχῆ τυπωςάμενος, quoted at Mentz¹ 49.

²⁴Milne's source presents a tetrad. The version illustrated here is preserved in the Halle tablets published by Mentz: Mentz⁴ Taf. 2r.

and $\dot{\epsilon}\pi\iota c\tau o\lambda \eta v$ as λ and $\pi\rho oc \phi ov \hat{c}$ as λ and so forth, \cap and \uparrow and \neg being respectively the signs for ωv and ηv and ϵi .

Mastery of shorthand, then, depended first upon accurate memorization of the elementary symbols and, secondarily, on memorizing what eventually grew to be more than eight hundred signs in the Commentary, each one with supplemental meanings. The fact that one part of the manual drew from the other was no doubt a significant aid in memorization. So too was the internal association of the words in many tetrads. Nevertheless the learning process must have been arduous and long. An Oxyrhynchus contract roughly contemporary with the Plato papyrus records the indenture of a slave for two years to a cημειογράφοc, by the end of which time he was to have learned the entire Commentary.²⁵

P.Oxy. XV 1808

The way the Oxyrhynchus annotator uses shorthand has no exact parallel among deciphered texts, as will become apparent. His work is also important as one of the earliest examples of tachygraphy to survive. Only eight earlier texts are known, and the papyrus in fact predates a general regularization of the shorthand system in the third century.²⁶ It presents a good opportunity, therefore, for studying an early phase in the development of the system. Also, since it is one of the few extended examples of tachygraphy and is now at last legible, it may provide insight into how the system worked in

²⁵*P.Oxy*. IV 724, A.D. 155.

²⁶The earliest known shorthand texts are: *mid-1*st cent.: PSI inv. 2013 (judicial oration); 1st cent.?: Pack² 2771 (Commentary); early 2st cent.?: *P.Brem.* 82 (undeciphered); 2nd cent.: Clarysse (*supra* n.2) 1998.4674, 1998.4707, 1998.4865, 1998.4866, 1998.4943 (all Commentaries); 2nd-3rd cent.: 1998.5014 (Commentary). For the reconstructed development of the system, see *supra* n.17.

practice. Information of either kind—on the history of the system or on its practical application—should be useful in the evaluation of texts in the future, and in understanding the system overall.

The list that follows contains only signs which in my opinion belonged to the ancient Syllabary or the other manuals used in teaching Greek shorthand. I omit other abbreviations and symbols.²⁷ The tachygraphic signs are in two groups, those preserved elsewhere with the same meaning and those which are unattested. I also append notes giving parallels for each. More detailed discussion of certain symbols follows. For context, I include as an Appendix a working version of my forthcoming edition of the marginal notes.²⁸

Tachygraphic Signs in P.Oxy. XV 1808

(1) Preserved elsewhere

	Meaning	Application in the papyrus	
1	α c (cf. τα c)	 i.9, 11: δυναμέν(αc), άλλ(αc), πλευρ(άc) 	
	Notes: Mentz ¹ Taf. I, Mentz ⁴ 3v line 3, 8v line 4.		
٦	ει (also, itacisti- cally, ι)	i.5, 15; ii.2, 8, 9: τέλ(ει)(ον), κ(ί)ονες, λ(εί)πεςθ-,	

²⁷ Abbreviations of the sort usually found in literary papyri: αριθ^μ: ἀριθμ(όc), αρρη^τ: ἀρρητ(ῶν), †: γί(νεται), γί(νονται), γυ^ν: γυν(αικείω), δ': δ(ια-), ε': ἐ(π-), εχ^ω: ἔχω(ν), ημε^ρ: ἡμέρ(αι), ηρακλει^τ: Ἡράκλειτ(oc), - θ̄ in λ(εί)πεcθ(αι), -με^τ: -μέτ(ρου), ον: ὄν(τωc), ορ: ὅρι(ον), ορ°: ὅρο(ι), σ^τ: ὅτ(ι), πλευρ': πλευρ(αί), π^λ: πλ(ευραί), ρη^τ: ἡπτ(όc), -c': -c(ηc), τετραγων^ο: τετράγωνο(c), τρ: τρ(σπήν), ωρ': ὡφ(). Symbols common in documentary contexts: the standard terms for the myriad (╦, i.4), for ἕτη ($_{\perp}$ ii.13), for cύμπαν used with a numeral to indicate a sum (c ii.10), for 1/2 ($_{\perp}$ ii.10; for the identification of this sign I am indebted to Traianos Gagos and Thorolf Christensen).

 $\lambda \epsilon i \pi(\epsilon \iota), (\epsilon i)$

²⁸For help with shorthand, I am indebted to Giovanna Menci, who offered invaluable criticism and provided interpretations for certain intractable signs. Errors that remain reflect my obstinacy, not her good advice.

Notes: Attested only in the Commentary, where it is used as an ending: Milne $36 = \lambda i \alpha v$, 3^{rd} ending (illustration: Mentz⁴ 2r, 1^{st} entry); Milne $38 = \dot{\epsilon} \mu o i \gamma \epsilon$, 4^{th} ending (illustration: Mentz⁴ 2r, 3^{rd} entry).

- **)** $εc\tau ι$ i.14: ($εc\tau ι$) Notes: Quickly formed **?** = $εc\tau ι$: Milne 72 (read by Menci).
- **γ** εc i.16: $i \pi i \phi \epsilon \rho \langle ov \tau \rangle (\epsilon c)$ Notes: Quickly formed **7**: Mentz¹.
- $\eta \qquad i.8: -c\tau(\eta)c\iota\nu \\ Notes: Mentz^1 Taf. I, Mentz^4 3v line 1, 8r line 2.$
- και i.12; ii.4: (καί) Notes: Milne 200.
- **ζ** τα i.6: $\kappa \langle \alpha \rangle (\tau \dot{\alpha})$ Notes: Quickly formed **ζ** = τα, Milne 13, Wessely no. 10 line 3.
- **1** $\tau \alpha c (cf. \alpha c)$ i.9, 11: $(\tau \dot{\alpha} c)$ Notes: Mentz¹Taf. III, Mentz⁴ 4r line 2.
- **γ** τους i.7: (τούς)Notes: Quickly formed **1** = τους, Milne 199.
- τω ii.4 (Ϛ), 12, 13: (τῷ) Notes: Mentz¹ Taf. III, Mentz⁴ 9r col. I.
- (2) Unattested elsewhere
- **C** εν ii.4: (ἐν)
- $\lambda \alpha$ i.2: άυ($\lambda \alpha$)

Discussion

ει (η)

This is the ligature *𝔄* stripped of all but its angular element.²⁹ It appears in the Commentary as the nucleus of certain principal signs:

1	ἔπειτα	Milne 172	$(-$ is the sign for α)
l	ἐπειδάν	Milne 460	$(- [elongated -]: \alpha v)$
l	ἐπειδή	Milne 53	(: η)
V	ειη	Milne 473	(: η)

It also appears there as an ending accompanying tetradic signs. In Milne 36 ($\lambda i \alpha v$), for example, we saw it used to represent $\pi \rho \circ c \phi \omega v \epsilon \hat{i}$ (**\lambda**). Clearly, then, it was in common use when the Commentary came into existence about the middle of the first century A.D., for we find it well cemented there. The marginalia in P.Oxy. XV 1808 demonstrate that it continued in use through the late second century, though soon after, in the third century, it dropped from sight as an independent sign. Eventually it vanished even from the Syllabary. The reason undoubtedly was the increasingly iotacist tendency in spoken Greek.³⁰ As pronunciation of *ε*ι became assimilated to that of iota, stenographers had diminishing need for separate symbols. In tachygraphy, after all, the object is to capture the spoken, not the written, word, and for this the most important thing is what one hears. How one spells it matters less. But even though the Oxyrhynchus annotator correctly and enthusiastically applied the sign for ε_1 (he uses it more than any other), he himself was actually not immune to changes in the sound of the language. In kíovec (i.15) we find him overcompensating for the iotacism all around him, representing ı as ει.

 $\mathbf{C} = \mathbf{\epsilon} \mathbf{v}$ (ii.4)

Context confirms the reading, although the sign normally is written as $_$. This may in fact be what the scribe carelessly approximated. Certainly he distorts other tachygraphic shapes (*e.g.*, those for $\tau\alpha$, $\tau \circ \nu c$, $\varepsilon c \tau \iota$, εc , $\tau \omega$), perhaps because

²⁹Mentz⁴ 27.
³⁰Mentz⁴ 15; Boge, *Tachygraphie* (supra n.2) 105.

he was writing quickly. I think it likelier, however, that he intended to represent εv with exactly what we see, the curved sign C, for with the meaning εv it is consistent with other forms based on epsilon:

ε ειν Milne 174 ε ειμ[Milne 177 ε ει[Milne 178

The slight modification of signs to represent words somehow related to them is fundamental in the organization of the Syllabary, as Mentz's tables make clear.³¹ If \mathbf{C} for εv is another instance of the practice, it is either the scribe's invention or a vestige of an early or variant system.

$\lambda = \lambda \alpha$ (i.2)

The sign appears uniquely in this papyrus. Menci's suggestion that here, with αv , it stands for a form of $\check{\alpha}\check{v}\lambda oc$ is attractive for philosophical reasons. The note, which explains $\theta \epsilon i \phi_{\mu} \mu \epsilon v \gamma \epsilon v v \eta \tau \hat{\phi}$ (*Resp.* 546B), evidently deals with Plato's concept of the eternal soul as something incorporeal and therefore immaterial (*cf. Ti.* 36E). The reading is palaeographically appealing too. The sign bears a structural resemblance to other terms beginning in lambda: λ for $\lambda \alpha v \sigma v$ (Milne p.13, in one of the few preserved Endings), λ for $\lambda \alpha v$ (Milne 36), and λ for $\lambda \alpha \sigma v$, $\lambda \alpha i \sigma v$ (Milne 733). Interestingly, if the sign in the Oxyrhynchus text represents a syllable in lambda, it must come from a variant version of the Syllabary did not include forms beginning in lambda.³²

What can we say, then, about the annotator's command of shorthand? At the least, he is acquainted with a handful of symbols representing frequently-occurring words. His repertoire, at least as we see it in this small

 $^{^{31}}$ Note the regularity, *e.g.*, in the signs of P.Ant. 1 (Milne pp.15–18) and those tabulated at Mentz¹ 39.

³²Signs for syllables beginning in π, β, φ, κ, γ; ζ, and ξ, as well as λ, were absent from the standard syllabary: Mentz⁴ 17. Variant versions survive, however, which contain syllables beginning with lambda: Mentz⁴ 32–36 (treating Wessely 9), Wessely 10.

sample, consists of signs for words that any tachygraphic writer would frequently employ. They include signs for forms of the definite article (he knows at least four), signs for very common words like $\kappa\alpha i$ and $\dot{\epsilon}c\tau i$, and signs for a few elements of language: a vowel, a diphthong, and a few miscellaneous syllables (η , ϵ_i , ov, ϵ_c , $\lambda\alpha$). Everything he uses comes from the Syllabary, or at least resembles signs in the Syllabary, with the possible exception of the symbols for $\kappa\alpha i$ and $\epsilon c\tau i$, which he may have got from the Monobolai. Nothing here can properly be termed an Ending. Interestingly, not one of the composite signs of the Commentary appears. What he demonstrates, then, is a rudimentary and incomplete knowledge of the much larger system.

The scribe, however, while mostly adhering to the known system, allows interesting exceptions. He employs at least one sign (for ε_1) which was already obsolete. He also uses a small number of unique signs (for εv , $\lambda \alpha$) which may come, like the sign for ει, from an archaic version of the Syllabary. Certainly, in the case of $\lambda \alpha$, we know that the standard Syllabary later omitted signs in lambda altogether. Perhaps he invented the eccentric signs himself, either in haste or because his memory failed him. But if they are inventions, it is important to recognize that they are intelligent inventions: each one is a variation on a similar sign which routinely represents some related sound. Even if he made these up, it is clear he has at least an elementary understanding of the logic of the standard system. Overall, he has more than a casual acquaintance with a few signs, for he has also absorbed certain standard tachygraphic principles.

Furthermore, he is easily conversant with routine practices, for example the use of a single sign to represent different sounds. He applies the principle effectively even

in a potentially confusing context at i.9, where he writes δυναμεν **11** for δυναμένας τάς. He also has the stenographer's instinct for suppressing superfluous letters, for example at i.16 in $i\pi_{10}(\epsilon_{10})$. He is not overly punctilious about penmanship. It makes no difference, even to modern readers, that he renders the sign for $\tau \omega$ as \checkmark at ii.4 and \checkmark at ii.12, since it is intelligible in each context. He is adaptable. This may account for his odd assortment of ways for writing Greek words. Many he spells out completely. He uses shorthand sometimes in place of a word ending, sometimes for a syllable within a word, sometimes in place of a whole word. He uses the kind of abbreviations that appear in literary papyri even more frequently than he uses shorthand.³³ And four of his symbols, astonishingly, are signs that are more at home in the world of documentary papyri than literary. Only one of them, in fact, that for myriad, ever recurs in a literary text. On balance, while the scribe's handwriting is not thoroughly stenographic, it reflects the essence of stenography: it is flexible, economical, inventive, and adaptable.

Nevertheless we might wonder why a person who has clearly taken the trouble to learn a good deal about shorthand would use it so sparingly. In other deciphered shorthand texts, the stenographic portions contain only shorthand, not shorthand mixed with normal script and other kinds of abbreviation.³⁴ Scribes in these other texts,

³³The commonest conventional abbreviation here, as usual, is suspension, in which a scribe omits the ending of a word. The annotator employs both suspensions of the form δ ' = $\delta(\iota\alpha$ -) and those in which letters are omitted from the end and the last one retained is written as a suprascript, *e.g.*, $\alpha\rho_1\theta^{\mu}$ for $\dot{\alpha}\rho_1\theta_{\mu}(\dot{\delta}c)$, $_{\uparrow^{\dagger}}$ for $\gamma((v\epsilon\tau\alpha))$. Like other scribes, the annotator rarely omits more than a very few letters, presumably out of concern for preserving intelligibility. He also uses contraction once, although it is rare in literary texts: θ for $\theta(\epsilon\delta)c$. This is reminiscent of the common *nomen sacrum* $\theta \bar{c}$, but the context does not allow a Christian or Biblical connotation and it is probably a co-incidence.

³⁴*Cf. P.Brem.* 82 (undeciphered) and the texts interpreted by Mentz: *Stud.Pal.* VIII 70–73 (Mentz² 70–73, subscriptions by Petterios); P.Prag.

moreover, draw heavily on the Commentary as well.³⁵ Certainly the Plato annotator had the opportunity to absorb the Commentary, since copies were within reach. At least two survive from contemporary Oxyrhynchus, and it is hard to imagine that a person so well educated, and presumably so well connected, could not obtain something so mundane as a Commentary. There must be another explanation.

Who would have been motivated—and able—to write annotations in such a mixture of scripts on a topic as abstruse as Plato's nuptial number? The presence of tachygraphy raises the possibility that the writer was a slave, since knowledge of shorthand was not a concern of most educated free men in the second century. But it seems unlikely that a slave trained in tachygraphy would concern himself with this most difficult passage of Plato, and yet not put his shorthand to better use. Only an advanced student of literature or philosophy, or a scholar, will have been engaged in studying in such depth such a difficult section of the Republic, and at the time the papyrus was copied, the slaves who were associated with the educational process were not scholars. They were the $\pi\alpha_1\delta\alpha_2\omega_2\omega_1$ who occasionally provided elementary pre-school instruction for children in their parents' home. Teachers of γραμματική and of philosophy, in the second century A.D., were not slaves.³⁶

inv. Gr. 14 fol. 17 (Mentz³ 71–72, Christian text, probably a writing exercise); *CIL* III 8899 (Mentz³ 72–73, writing illustrated on a wax tablet represented on a funeral monument); *BGU* III 840–841 (Mentz³ 74–75, an element in documentary subscriptions); *CIG* 4763 (Mentz⁴ 39, graffito at Thebes).

³⁵The thoroughly tachygraphic Christian text in P.Prag. inv. Gr. 14 fol. 17 (Mentz³ 71–72) and the New Testament exercises in T.Hal. (2 Cor. 1.3, Mentz³ 63–64 and Mentz⁴ 5r; Ephes. 1.15, Mentz³ 66–68 and Mentz⁴ 2 verso) suggest that this was expected of students.

³⁶Kaster (*supra* n.11) 51–52.

A likelier explanation is that the annotator was one of the versatile tutors—the $\kappa\alpha\theta\eta\gamma\eta\tau\alpha\dot{1}$ mentioned earlier —who appear now and then in papyri.³⁷ These were free men who taught at various levels and on various topics, sometimes even taking up subjects conventionally handled by grammarians or rhetoricians.³⁸ As Cribiore has demonstrated, it was not unusual for teachers to supplement their meager incomes by working as scribes and notaries.³⁹ If our annotator "moonlighted" in this way, he may have learned a little shorthand to help him in that work. The surprising appearance here of no fewer than four abbreviations of the kind usually encountered in accounting documents-the standard terms for the myriad ($\frac{\overline{\alpha}}{\mu}$), for ἔτη (\square), for c ύμπαν used with a numeral to indicate a sum (c), and for 1/2 (\angle)—might indicate, for example, that the annotator's remunerative work was connected with tax collection. For this it might have been helpful for him to know a little tachygraphy in order to take notes during routine oral declarations. But he will have had no need to learn the full Commentary. Hence his limited repertoire: he learned parts of the system well enough to absorb some of its subtler lessons, but he was no skilled tachygrapher. Slavery did not compel him to submit to the drudgery of a long course of technical studies, and his needs did not require it.

The most suitable explanation for the peculiarities of

³⁷Cribiore 167 gives a list of ten citations.

³⁸Cribiore 16–17; *cf*. nos. 1–5 and 9–10 of her list on p.167. The clever teacher sought by Neilos, the first-century letter-writer of *P.Oxy*. XVIII 2190 (nos. 1–4), will replace his former tutor (καθηγητή*c*). But in speaking of the prospective instructor Neilos uses terms that indicate that he seeks a high-level instructor—φιλολόγο*c*, coφισή*c*. *P.Oxy*. VI 930 (2nd–3rd cent.) suggests that one such καθηγητή*c* was reading *Iliad* 6 with his charge.

 $^{^{39}}$ διδά
cκαλοι as scribes in business dealings: Cribiore 22, and (in the list on 164–166) nos. 2, 18, 19, 26, 29.

the shorthand in *P.Oxy*. XV 1808, then, and indeed for its very presence, is that the writer was a free man, highly educated and perhaps a scholar, to judge from the learned substance of the notes. For personal reasons that we can only guess, he learned a bit of shorthand. He may have needed the extra income that the skill could bring. But the simple explanation is always available too. Perhaps he simply sought to speed his own pen. Cicero had also seen an advantage in tachygraphy.⁴⁰

An important question still remains: how did the notes find their way into the papyrus? Did the annotator copy them as he listened to a scholar's oral delivery, or did he transcribe them from a written commentary? Their density, compared to the brevity of the passage treated, suggests a written source, since it might be difficult for anyone to copy so quickly and so accurately from a lecture and even include illustrative diagrams as he took notes. The annotations themselves offer some of the most

⁴⁰ According to Plutarch, an early occasion of the use of shorthand was a senate speech of Cato against the Catilinarians, at which Cicero, in an innovation, seems to have set shorthand writers to take down what Cato said: *Cato Min.* 23, Κικέρωνος τοῦ ὑπάτου τοὺς διαφέροντας ὀζύτητι τῶν γραφέων cημεῖα προδιδάζαντος, ἐν μικροῖς καὶ βραχέςι τύποις πολλῶν γραμμάτων ἔχοντα δύναμιν, εἶτ' ἄλλον ἀλλαχός ε τοῦ βουλευτηρίου ςποράδην ἐμβαλόντος. οὕπω γὰρ ἤςκουν οὐδ' ἐκέκτηντο τοὺς καλουμένους cημειογράφους, ἀλλὰ τότε πρῶτον εἰς ἴχνος τι καταcτῆναι λέγουςιν. But the evidence of Cicero himself raises the question whether real shorthand was employed on that occasion. In *Sull.* 41–42, where he speaks of having appointed certain senators to record proceedings, the verb he uses is *perscribo*, which refers to writing out something in full, not in shorthand, for which the proper verb is *excipere* (M. McDonnell, "Writing, Copying, and Autograph Manuscripts in Ancient Rome," *CQ* 46 [1996] 474): *itaque introductis in senatum indicibus constitui senatores qui omnia indicum dicta, interrogata, responsa perscriberent. at quos viros! non solum summa virtute et fide, cuius generis erat in senatu facultas maxima, sed etiam quos sciebam memoria, scientia, celeritate scribendi facillime quae dicerentur persequi posse. Various parallels in Plutarch's account also raise the possibility that his later story improves upon the facts. For him, the novelty of shorthand is the key thing. For Cicero, it is the great care and practiced penmanship of the writers—and therefore the reliability of their transcripts.*

precise and the most learned information that the ancient marginalia on any author provide. The writer accurately reports Heraclitus' view on the length of the Great Year and he works out Plato's geometric calculations clearly and concisely. Error-free detail in this quantity and depth is unusual, yet no errors appear in what is legible. Unfortunately the layout of the notes and their content, which in other papyri are strong indications of a written source, produce no evidence either way. The scribe evidently did not set off the first lines of the notes by ecthesis, as many annotators do in the course of copying from commentaries where the text is set up in this way. Nor are there any paragraphi to divide the comments. Annotators often transcribed these from hypomnemata along with the notes. The phrasing of the comments shows no clear correspondences with other commentaries. Certainly the annotator's diction evokes Proclus' commentary on the Republic and other ancient studies on Plato, but extended parallels are lacking. Layout, punctuation, and close verbal parallels, if present, would suggest a written source, but certainly their absence does not disprove it.

What of the obvious alternative, that the annotator took down this information while listening to the lecture of a philosopher? The chief evidence for this would be the fact that shorthand is present, because it was for just such occasions that shorthand was invented, although admittedly it came into being to serve in the world of affairs, not in the world of letters. Certainly the scribe's rapid variation from one style to another—from *scriptio plena* to shorthand to abbreviations used in literary texts and then to abbreviations used in documents—may reflect the agitation and the rapid adjustments of a quick mind attempting to capture in writing every important point made by a brilliant speaker. It is worth considering that we have here the recorded remnants of a lecture by a second-century Platonic scholar. I see no way to settle the question, however, and must leave it open.

APPENDIX: Provisional Restoration of Marginalia in *P.Oxy*. XV 1808 (tachygraphic elements underscored)

i.1–3, treating θείω μέν γεννητώ περίοδος:

[οὐ (τῶ)] κόcμῷ λ [έγ(ει) | γ(ἀρ) τὰ] μ(ἐν) ἄΰ(<u>λα</u>) ἐπ[ά]νῷ ἀc[ώl(μα)τ]ἀ Not for the cosmos, for he means the immaterial, incorporeal things above.

i.4, treating ἀριθμὸς ... τέλειος: Ἡράκλειτ(ος)· ἔτη μ(υριὰς) ϖ ϖ

i.5–8, treating ἀριθμὸς ... τέλειος:

 $\begin{array}{l} [\tau\epsilon\lambda(\underline{\epsilon\iota})(\underline{o\nu}) ~~ \acute{o}\tau(\iota) ~~ \acute{e}(\pi)\iota[\delta]\grave{\omega}(\nu) ~~ \kappa\langle\alpha\rangle(\underline{\tau\dot{\alpha}}) ~~ \tau\rho(o\pi\dot{\alpha}c) ~\acute{o}~ \theta(\epsilon\dot{o})c \\ \dot{\omega}\rho() ~~ | ~~ [\ . \ . \] ~~ \theta ~~ . ~~ . ~~ . ~~ (\) ~~ (\underline{\tau o\,\dot{\upsilon}\,c}) ~~ \pi\lambda\acute{\alpha}\nu\eta\tau\alpha c ~~ | ~~ [\dot{\alpha}(\pi o)-\kappa(\alpha\theta)\acute{\iota}]c\tau(\underline{\eta})c\iota\nu \end{array}$

"Perfect because god, having kept watch over the turnings, ?once the season has <...-ed>, restores the planets.

i.9–10, treating δυνάμεναι:

δυναμέν $(\underline{\alpha c}) \cdot (\underline{\tau \dot{\alpha c}})$ ὑποΙτεινού $c \alpha c$ "The ones ruling": the hypotenuses.

i.11-12, treating δυναςτευόμεναι:

 $(\underline{\tau \dot{\alpha} c})$ άλλ $(\underline{\alpha c})$ πλευρ $(\underline{\dot{\alpha} c}) \cdot |$ ὀρθην $(\underline{\kappa \alpha \dot{\iota}})$ βάcιν The other sides: the perpendicular and base.

i.13-16, treating τρεῖς ἀποςτάςεις τέτταρας δὲ ὅρους λαβοῦςαι:

 $\bar{\delta}$ ὅρο(ι) $\bar{\gamma}$ ἀποςτά
ἰςεις ἔχουςι· (ἔςτι) ὅν(τως) | $\bar{\delta}$ κ(ί)
ονες τὸ | ὅρι(ον) ἐπιφέρ
(οντ)(ες)

Four terms have three intervals. There are actually four columns producing the boundary.

 ii.1–5, treating ἰcoμήκη μὲν τῃ, προμήκη δἑ, ἑκατὸν μὲν ἀριθμῶν ἀπὸ διαμέτρων ῥητῶν πεμπάδος, δεομένων ἑνὸς ἑκάςτων, ἀρρήτων δὲ δυοῖν:

----] $c_1 \bar{\mu} \bar{\eta}$ [...] $i c_0 \mu \eta \kappa(\eta)$ [---| ---- ?προμήκ]η δέ·. [... ?τ] $\hat{\phi}$ $\lambda(\underline{\epsilon i})\pi\epsilon c\theta(\alpha \iota)$ μο[νάδι - - - | ----]..[.]. [.]. ἕχει τετράγωνο(c) ἀριθμὸc [άρρητ(ον) $\delta($ ιά)μετ(ρον) |---- $\epsilon i \pi]\lambda(\epsilon \nu \rho \dot{\alpha}) \bar{\epsilon}, o\dot{b} \tau \dot{o} c \chi \eta \mu \alpha (\underline{\kappa \alpha \dot{\iota}}) (\underline{\dot{\epsilon} \nu}) (\underline{\tau \hat{\omega}})$ Mένωνι $\overline{\overline{\epsilon}}$ [- - - - | - - - - τ]ὸ διπλάςιον ἀπὸ δ(ια)μέτ(ρου) γί(νεται) Κ [ν̄. ... 48 ... equal in length ... but oblong(?) ... by(?) subtracting by 1 ... A square number has <an irrational diagonal?> ... side(?) 5, of which the figure <is> also in the *Meno*: $\bar{\varepsilon}_{[\overline{\epsilon}]\overline{\epsilon}}$... the double <of the square> upon the diagonal is $\leq \ldots <50$ >. ii.6–7, treating ἀριθμῶν ἀπὸ διαμέτρων ῥητῶν: $\dot{\rho}$ ητ(\dot{o} **c**) ἀριθμ(\dot{o} **c**) ὁ πλευΙρὰν ἔχω(ν) A rational number is one having a root. ii.8-9, treating δεομένων ένος έκάςτου: $\lambda \epsilon i \pi (\epsilon i)$ μονά δι (ϵi) πλευρ(ά) · $\mu \bar{\eta}$

- It is less by 1 if it has a root: 48.
- ii.10–11, treating ἀρρήτων δὲ δυοῖν:
 ἀρρητ(ῶν) c(ὑμπαν)· ν̄, οὖ (ἡμίcει) | εἰcì πλ(ευραί)
 Of irrational diameters, the total is 50, for half of which there are roots.
- ii.12–13, treating ξύμπας δὲ οὖτος ὁ ἀριθμὸς γεωμετρικός:
 (τῶ) κζ γί(νονται) ἡμέρ(αι) Ι Zφ, (ἔτη) κ (τῶ) γυν(αικείω)
 Through 27 it becomes 7,500 days: 20 years for the female (number).

March, 2002 Dept. of Classics, Greek, and Latin Wayne State University Detroit, MI 48202 k.mcnamee@wayne.edu