Orestes 344–45: Colometry and Music

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The central lines of the second antistrophe in the second stasimon of Euripides' Orestes did not, on the strength of the manuscript tradition alone, seem to present any particularly difficult problems. I cite here the text of di Benedetto with his apparatus:¹

ματέρος αἷμα κας, ὅς ἀναβακχεύει;
κατολοφύρομαι κατολοφύρομαι.

340 ὁ μέγας ὄλβος οὖν μόνιμος ἐν βροτοῖς·
ἀνὰ δὲ λαίφος ὃς
τις ἀκάτον θεοῖς τινάξας δαίμονι
κατέκλυσεν δεινῶν πόνων ὡς πόντον
λάβροις ὀλθρίοις εἰν κύμαινι.

345 τίνα γὰρ ἐτὶ πάρος οἶκον ἔλλον

But in 1892 Wessely published the now celebrated musical papyrus (P. Vindob. inv. G 2315), a fragment preserving parts of seven lines (Or. 338ff) accompanied by musical notation.² Written about 200 B.C.,

¹ V. di Benedetto, ed. Euripidis Orestes (Firenze 1965) 73–74.
the papyrus is one of the earliest surviving musical texts and preserves the most substantial fragment of music composed for an extant tragedy; whether Euripides himself composed the music is an issue immaterial to this paper. Each line consists of an (interlinear) upper half containing the notes of vocal music and a lower half containing the Greek text and the notes of instrumental music (see Plate 1).\(^3\)

I repeat here the recent edition of Hunger and Pohlmann (1962) with their apparatus augmented by the modifications of Turner (1971):

The papyrus reverses the order of lines 338 and 339 of the manuscripts, and scholars have long debated the merits of this reversal. But no part of the fragment has produced as many unsatisfactory conjectures as the text and music of line 7 (= 344). Most of the interlinear vocal music but little of its Greek text have been preserved, and scholars have attempted in vain to fit the Euripidean text preserved in the manuscripts to both the music and the few remaining traces of the text in the papyrus. The aims of this paper are (1) to clarify the music and text of line 7, and (2) to suggest a new correlation between the text of the manuscripts and that of the papyrus, as required by demands imposed by the musical notation of the papyrus. (3) In following the demands the musical notation makes on the text, we must also establish a different colometry for lines 344-45. Unfortunately, a conclusive solution to the textual problem in line 7 remains to be found.

Since the traces of the musical notation of line 7 are more extensive than those of the text, we must commence with the reading of the music. The first visible vocal note of the line lies under the right side of the diastole in the line above (see PLATE 1). There is a clear trace of the top of this note; the trace consists of a slightly slanted vertical stroke with a curved stroke connecting at its upper right. Considering the vocal notes of the two scales represented, one must conclude that the note is a rho. Wessely, Crusius, Pöhlmann and Turner all agree in this. No other note could fit the remaining traces of ink and also

The vocal notes of the harmoniai used in the papyrus are these: $E = e^\#$, $Z = e'$, $\rho = d'$, $\Pi = b\flat$, $P = a^\#$, $\Phi = g$. The $+$ raises the note by a quarteirone; $a^\#$ lies between our modern $a$ and $b\flat$. There are also several instrumental notes, most importantly the frequently appearing $\text{L} = g'$. The modern equivalencies are based on Barbour, who follows Bellermann's system.

4 G. A. Longman, "The Musical Papyrus: Euripides Orestes 332-40," CQ 56 (1962) 61-66, recently tried to prove that the papyrus' order of lines 339/338/340 offered a text superior to that of the traditional order and to that of Kirchhoff's transposed order 338/340/339. Longman did convincingly show that the transposed version of Kirchhoff was unnecessary, as did D. Feaver, "The Musical Setting of Euripides' Orestes," AJP 81 (1960) 9 n.24. V. di Benedetto, op.cit. (supra n.1) 73-74, the most recent editor of the Orestes, prints the order of the mediaeval manuscripts. Turner, art.cit. (supra n.2) 96, prefers the order of the papyrus.

5 The diastole, a curved mark which designates the division between text and instrumental music, is an unquestionable reading. See Pöhlmann 141 and 92 (P. Vindob. inv. G 29815f). Line 5 of this fragment shows a similar diastole. Wessely 270 mistakenly thought this sign was another instrumental note, but cf. V. Gardthausen, Griechische Palaeographie II (Leipzig 1913) 399.
belong to the scales of this piece—the scales of Aristides’ Phrygian and Dorian harmoniai. Moreover, examples of vocal rho in lines 1, 3 and 4 match the partial remains of this letter. Finally, the next vocal note to follow the rho is appropriately a sigma. The interval between rho (a+) and sigma (a) would be not at all awkward, for the notes occur in the same note-cluster. These musical and palaeographical considerations indicate that rho is the preferred reading.

The note that should follow this rho to the right does not appear on the papyrus, nor is there any hint that there was ever a vocal note written there. According to the rules that scholars have elicited from our other early fragments of Greek music, the syllable of text below this blank space would be sung to the same note (rho) as the preceding syllable.

The next mark is undoubtedly the stigme (a dot which signifies a rhythmical emphasis) which was to appear over the instrumental note Λ (as it did in lines 1–4), but Crusius thought the straight line after the second vocal rho in this line was the upper horizontal of the Λ. He accordingly (pp.177, 180) assigned this stigme to a vocal note sigma. Crusius must have erred in his identification, however, for the vocal note which follows this stigme is certainly a sigma; we have seen that repeated notes were not written the second time. Moreover, Crusius would have had difficulty in explaining how a stigme could occur here. Thus far in the papyrus stigmai have occurred only over the first beat of each dochmius, over the third to last beat of each dochmius, and over the instrumental notes (Λ) which separate the dochmii. The stigme over Crusius’ proposed sigma would fall on the second to last beat of the dochmius, and so it would not signify an arsis or thesis.

6 I shall discuss elsewhere the possible modulation of harmoniai in line 5.

8 The omission of the second of two repeated notes may also occur in this papyrus in line 2 over ἀναβακχέησι or in line 6 over πόνου, but both these readings are questionable. More certain examples can be found in P.Vindob. inv. G 29825 a/b verso, 3–5. See Pöhlmann 88.
The following two vocal notes are undoubtedly sigma (with stigma) and rho, but the next mark after the rho has created great disagreement and confusion among the editors of the Orestes papyrus. Wessely (p.270) called it a vocal ι (reversed gamma); Crusius, as already mentioned, thought it was the instrumental Λ; Hunger and Pöhlmann (p.77) believe it to be a vocal note ζeta. All three conjectures are unsatisfactory. Wessely’s reversed gamma is a vocal note (e) which has not appeared on the papyrus in any other spot and which is musically too low for its position here; it does not belong to the cluster φρζν. Although this tone does belong to Aristides’ Phrygian harmonia, it falls an octave too low. Crusius’ instrumental Λ fails because the Λ in this line preceded the vocal sigma, as has been shown, and because the Λ conjectured by Crusius has no stigma over it. All four examples of Λ in lines 1–4 clearly have stigmai. Hunger and Pöhlmann’s vocal ζeta was posited on the condition that the text below it was ἐν κύματι. Their suggestion of doubling the epsilon to accommodate two contiguous vocal notes is brilliant, but the traces of ink left from the line of the text below hardly confirm their conjecture.9 E. G. Turner (p.70) follows this same reading of the music but without articulating it to his text (double epsilon), for he has placed the vocal ζeta over the next ensuing syllable and leaves the first epsilon without any note at all. The best reading of this mark will become clear when we discuss the text of line 7.

The next musical signs are a dot over a horizontal line (stigma and disema) placed above a letter now lost. These readings are secure since they stand so far above the other vocal notes in the line.10 In at least three other examples, the only letter to have the stigma and disema above it was pi, and therefore another Π should be conjectured here.11

Crusius recognized the last extant note in the line as a phi, and subsequent editors have followed him; only the top of the hasta and the upper right of the curve survive. Crusius believed (p.178) that he could also distinguish a stigma to the upper right. The other editors have not repeated this reading, but as we shall see, there are metrical grounds for thinking that Crusius was correct.

9 The doubled epsilon would be like the doubled omega in line 6. Two vocal notes so close to each other necessitated their conjecture.
10 Hunger and Pöhlmann 77.
11 This would mean that the Π stood over the third to last beat of the dochmius, which it does. See infra p.81. The other examples are in lines 3, 4 and 5, and perhaps 1.
Now that we have established the musical notes of line 7, we may determine more precisely what part of the received text can fit this music. We must follow the rules of musical graphics observed in the preceding lines of the Orestes papyrus: (1) the positioning of the text must conform to the positioning of the vocal notes, that is, a vocal note must stand over the first letter of the syllable it accompanies, and (2) only one note accompanies each syllable; moreover, (3) the instrumental ι should occur between two dochmii, and (4) the first and third vocal notes after the beginning of each dochmius should carry stigmai (as the arsis and thesis of the dochmius). Finally, of course, the letters of the text must fit the traces of ink left on the papyrus; although this point may seem obvious, the conjectures of Crusius and Pöhlmann fail to observe it.

Wessely (p.270) read the four letters of text partly preserved in line 7 as OCWN; this reading, however, does not correspond with the text of the manuscripts. The papyrus might well be a fragment of a musical anthology, passing from the Orestes to a new text at line 7: but in doing so it would have failed to complete the musical unit, the Euripidean antistrophe. On the assumptions, then, that we have a coherent text and that the mediaeval textual tradition must be accommodated, the organization of all seven lines of the papyrus ought to be consistent. The first four lines each contain two dochmii; the exceptional single dochmius of line 5 is probably to be explained by the presence of an instrumental interlude. Therefore it is probable that lines 6 and 7 also contained two dochmii, so that the first dochmius πόνων ώς πόντου would have been followed by λάβροις διεθρίοι|είμ πόμασιν | τίνα γαρ ἔτι πάρος of our manuscript tradition. The hypothesis that line 7 contained two dochmii is confirmed by the

12 If the syllable includes a diphthong or if the vowel of the syllable is doubled, it may have two vocal notes. See my note, "A Diphonal Diphthong in the Orestes Papyrus," AJP 97 (1976) 172-73, and the two Delphic Hymns in S. Eitrem and R. P. Winnington-Ingram, "Fragments of Unknown Greek Tragic Texts with Musical Notation," SymbOslo 31 (1955) 9. The restoration of ἄκατον in line 4 of the Orestes papyrus shows that its initial vocal note σίγμα in all likelihood stood slightly to the left of center of the first letter. There has apparently been an erasure here, however, which would explain the anomaly.

13 Line 5 contains the instrumental interlude ιϋ or ιι, which would probably have consumed a significant amount of time, especially if improvised notes were called for between the diastole (ι) and the note ι (ι). The diastole, of course, is never an instrumental note; here it is a symbol for dividing vocal music from instrumental. In a subsequent paper I shall discuss the readings of the notes in this instrumental interlude and the complex musical arrangement of line 5.
traces on the papyrus, for the dot which remains in the middle of the musical part of line 7 is certainly the *stigme* of the instrumental note \( \text{\textdagger} \), and this \( \text{\textdagger} \) served both as the musical note on which Aristides’ Phrygian *harmonia* of the piece was based and as the dividing point between the two dochmii of each line.\(^{14}\) Therefore we can be certain that line 7 had at least two dochmii divided by this instrumental note. Thus our analysis of the music in line 7 permits us to make statements about the text of line 7.

In 1893 Crusius (pp.178 and 180) reread the traces of line 7 as [CIN]; in his effort to fit the broken letters on the papyrus with the text of the manuscript tradition, he replaced Wessely’s *omicron* by an ‘uncertainty’, the first stroke of Wessely’s *omega* by iota, and the last two strokes of the *omega* by nu. Wessely’s nu he symbolized as \( \wedge \) and called it a ‘Vortragszeichen’.\(^{15}\) Hunger and Pöhlmann (p.77) followed Crusius in reading CIN, but they omitted the ‘uncertainty’ altogether. They supposed that CIN belonged to \( \delta \lambda \epsilon \theta \rho \iota \omicron \omicron \omicron \) of the text, which necessitated their conjecture of the doubled *epsilon* in \( \varepsilon \varepsilon \nu \).

But Crusius’ reading does not appear to fit the traces that remain on the papyrus. His *sigma* would seem to have a top that is not rounded enough, the final stroke of the *nu* would be abnormally slanted,\(^{16}\) and the *epilons* of \( \varepsilon \nu \) would have no curves at all. Moreover, if the first syllable after the instrumental \( \text{\textdagger} \) begins with a *sigma* in the text and a *sigma* in the music, why are they not positioned one over the other? Instead, the vocal note *sigma* must have been written far to the left of the text *sigma*, and this does not conform to the normal arrangement found elsewhere in the papyrus. Furthermore, there would not be room after the vocal *rho* for the vocal *zeta* restored by Hunger and Pöhlmann above the next letter. Clearly the top of the next letter of the text did not leave room for the base and oblique stroke of the vocal note *zeta*. Finally, while Hunger and Pöhlmann read CIN in the Greek text and place the vocal note *rho* over the first of their restored double *epilons*, the papyrus clearly shows that *rho* would rest instead over the *nu* of their supposed CIN.

\(^{14}\) Thus the instrumental \( \text{\textdagger} \) disappears in line 5 when the *harmonia* modulates to the Dorian at \( \beta \varepsilon \iota \omicron \nu \omicron \omicron \omicron \). The new instrumental note does not appear on the extant portion of the papyrus; this modulation also I shall discuss elsewhere.

\(^{15}\) He found another ‘Vortragszeichen’ at the end of line 4, but this sign is probably a *tetrasema* of the form \( \wedge \wedge \). See infra p.81. Cf. the ‘Seikilos Song’ in Pöhlmann 54 and in Eitrem, *Op.cit.* (supra n.12) 73-74.

\(^{16}\) This is still true of my own reading; for another example of the slanted *nu*, see B. L. Ullman, *Ancient Writing and its Influence* (New York 1963) pl. 3, line 7.
Rejecting the colometric assumption of Hunger and Pöhlmann, I propose that line 6 of the papyrus did not end with \( \text{ὅως πόντου} \) but contained a second dochmius ending with \( \text{ὀλεθρίοι-} \). According to my reconstruction line 6 was written thus:

\[
ΠΩΝΩΝΙΧĆΩΩΩΩΠΟΝΤΙΟΥ ΠΑΠΡΩΙΟΛΕΘΡΙΟΙ
\]

This line of text would have contained 33 letters and instrumental notes, one character longer than line 3, the longest line attested elsewhere in the fragment. In other strophic poetry preserved on papyri, line lengths often vary, with resulting irregular left or right margins. Consequently a variation in line-length in this papyrus should not disturb us, nor should extension of a line farther to the right or left of other lines. The division of \( \text{λάβροις ὀλεθρίοις} \) in each of two different cola warrants no objection, for \( \text{κατολοφύρομαι} \) occurs in a line different from that of its repetition in line 1 of this papyrus; \( \text{ὁ μέγας} \) follows directly after \( \text{ἀναβασκεῖσαι} \) in the same line even though a full stop intervenes; and the long exclamation \( \text{ἀνά δὲ λαῖφος ὧς} \) \( \text{τις} \) \( \text{ἀκάτου} \) \( \text{θοὰ} \) \( \text{πυνάξας δαίμων} \) \( \text{κατέκλυσεν} \) is separated into three different cola. Furthermore the division of the syllables of \( \text{ὀλεθρίοις} \) in between two lines has many parallels in both choral and personal lyric poetry. Nor should the meter present any obstacles, for there are still three separate dochmii in \( \text{κατέκλυσεν δεινῶν} \) \( \text{πόνων ὧς πόντου} \) and \( \text{λάβροις ὀλεθρίοις} \). The last two dochmii are now in one colon, while Hunger and Pöhlmann would have the first two in two separate monodochmiac cola. Also, the lines of the strophe parallel to these lines of the antistrophe fit the same metrical pattern. Lines 327–28 and 343–44 should be read in this way:

\[
\begin{align*}
327 & \quad \text{μανάδος φοιτα-} \\
343 & \quad \text{κατέκλυσεν· δεινῶν} \\
327a & \quad \text{λέων· φευεθ μόχθων, οὖν ὁ τάλας} \\
343a & \quad \text{πόνων· ὧς πόντου λάβροις ὀλεθρίοι-} \\
328 & \quad \text{ὀρεχθείς ἔρρεις,} \\
344 & \quad \text{εἰς ἐν κύμαις.}
\end{align*}
\]

17 For examples see \( \text{P.Oxy. XXIII 2369 (pl. iii)} \) of Sophocles’ \text{Inachus} from the first century B.C.; \( \text{P.Oxy. IX 1175 (pl. iii)} \) of Sophocles’ \text{Eurypylus} from the second century; and \( \text{P.Oxy. XXV 2436 (pl. xiv)} \), a text which is notated with music.\footnote{17}{Cf. \text{φοιτα|λέω} in the strophe (line 327) of this stasimon, accepted by all the editors.}

18 The forms of the dochmii in the various arrangements of resolutions are all attested as common by D. S. Raven, \text{Greek Metre} (London 1962) 62–63, types a, b, e, n and p. The
Since my new colometry restores λάβροις ὀλεθρίοι- to the preceding line of the antistrophe, the parallel phrase in the strophe must be moved as well, and in fact οἶον ὅ ἡ τάλας of the strophe is just as movable as its parallel λάβροις ὀλεθρίοι- in the antistrophe.

Although this arrangement of lines may at first seem arbitrary, the proof should lie in the correlation of the new colometric arrangement with the remains of the text in line 7 of the papyrus. The text of line 7 (vv.344–45) was probably written

εἰν ἐν κύμασιν ἦ τίνα γὰρ ἐτὶ πάρος

and the corresponding line of the strophe (vv.328–29) would therefore have been written

ὁρεχθεῖς ἐρρεῖς ἦ τρίποδος ἀπὸ φάτων.

These are the dochmii which follow after λάβροις ὀλεθρίοι- (344a) in the antistrophe and after οἶον ὅ τάλας (328a) in the strophe. The instrumental ὦ should follow the end of the first dochmii as in the other lines having two dochmii; in this construction it falls after κύμασιν.

This colometry and the consequent position of the instrumental ὦ provide us a model for reading the traces of line 7. If lines 6–7 are divided thus,

πόνων ὡς πόντου ἦ λάβροις ὀλεθρίοι εἰν ἐν κύμασιν ἦ τίνα γὰρ ἐτὶ πάρος

we see that the letters of line 7 which should lie under the musical notes preserved after the stigme of the instrumental ὦ and which should correspond to the extant traces of text are ΤΙΝΑ. Can the traces be read thus? The first horizontal stroke (broken like the bar of tau in τινα[ε], line 4) fits tau better than the sigma of Crusius and Hunger. But the most cogent reason for reading tau is the position of the vocal note sigma which accompanies the syllable in question. A musical note regularly lies directly above, or just to the right of center above, the first letter of the syllable it accompanies. Here the musical note sigma falls too far to the left of the supposed sigma of

.phiuo in line 327α of the strophe may well have been sung as φευ, for the diphthong ευ was pronounced as two separate sounds in the fifth and third centuries B.C.—the centuries in which either Euripides or a later composer, respectively, wrote the music. See Carl Buck, Comparative Grammar of Greek and Latin (Chicago 1933) 89, and supra n.12.
CIN—a displacement not observed elsewhere in either this papyrus or any of the other extant musical papyri. But if our surviving horizontal stroke is the broken right half of the bar of tau, the length of the original stroke would be sufficient to explain the placement of the vocal note sigma above it.

The next letters have since Crusius been tentatively read as IN, and this reading is consistent with my own proposal. The iota presents no palaeographical difficulty. The nu, however, while possible, would have to have been very poorly made. The top of its right vertical stroke makes an extreme curve toward the left. Conceivably this curve then caused the scribe to bend the rest of the line upwards to a degree more than the other lines of the fragment; the other lines do rise upwards toward the right margin, particularly line 4. In my reconstruction the oblique stroke of the next letter would have to be the apex of the alpha. But unless the ink and its underlying papyrus fibers have been damaged because of their position at the edge of the fragment, the reading of an alpha here must remain in doubt.

My suggestion τίνης has in turn an implication for the accompanying music. Hunger and Pohlmann were plainly mistaken in placing contiguous musical notes ΠΖ over the double epsilon that they restored to the right of the surviving text. As Plate 1 shows, the note rho stands over the letter that all scholars since Crusius have read as nu. If the text reads τίνα, then the horizontal stroke following the note rho stands over the alpha. This horizontal stroke therefore could not be part of a musical note zeta, for only one vocal note can appear above each syllable. Moreover, the oblique and lower horizontal strokes of zeta cannot fit into the space above the textual letter. I suggest that instead of zeta we read a disema (long mark) over the proposed (and otherwise short) syllable NA. The disema seems to be the only possible musical (in this instance rhythmical) sign that can fit the horizontal stroke on the papyrus, not overlap the letter below it, and still comply with the rules of ancient Greek musical notation.

To lengthen the short syllable NA by the use of a disema would negate the expected rhythmic interpretation of this dochmius, τίνα γάρ ἔτι πάρος; such lengthening would correspondingly shorten the next three syllables—τίνα γάρ ἔτι πάρος.20 A. M. Dale cited

20 Dochmii rarely have pyrrhic fourth beats, yet the form ὁ—ὁ ὁ—ὁ— is possible, as in Aesch. Agam. 1176.
THE ORESTES MUSICAL PAPYRUS, P. Vindob. inv. G 2315

(enlarged by ten per cent)

(Photograph by courtesy of the Nationalbibliothek, Wien)
Aristoxenus' mention of poikilia and a similar discussion in Dionysius of Halicarnassus, *De Comp. Verb.* 15, as proof that such rhythmic variations did exist; she was quite insistent that "the music defined the quantities."²¹ Winnington-Ingram, on the other hand, believes that the strict differentiation between longs and shorts was essential to the rhythm of Greek music.²² If there is a disema in line 7 (and possibly a tetrasema in line 4) these signs would change our interpretation of the rhythm in passages about which we were once certain. The extraordinary uses of disema and tetrasema would suggest that the long and short quantities of unmarked syllables were regularly observed and appropriately pronounced. If, as I suggest, the Orestes papyrus confirms that there were indeed occasional exceptions to the rules of long and short quantities, we could be confident in analyzing regular longs and shorts. Finally, if such exceptions do exist, they would permit the opposing views of Dale and Winnington-Ingram to be reconciled: a consistent, rigid observance of long and short quantities would have constituted a rhythmic regularity in the midst of which occasional poikilia would have seemed more poignant.

In the drawing below I indicate my interpretation of the surviving traces of line 7 as seen in *Plate* 1 and my reconstruction of the text they represent, to demonstrate that the vocal notes are positioned above the beginning of syllables, that the line of the text rises to the right, and that the last two vocal notes, π and Φ, carry a stigme.

If the stigme—a secure reading—over the vocal πι of line 7 seems out of place on the fourth to the last beat of the dochmius, it is because the disema over the alpha of the syllable before it has moved the metrical value of the syllable γὰρ back towards ετε. The three short syllables of the adverbial (and relatively insignificant) γὰρ ετε were

²² This is Winnington-Ingram's basic concern in criticizing E. Martin, *Trois Documents*, in *CR* 55 (1955) 84–85.
presumably taken together as a tribrach third beat. Consequently all three notes over these three syllables would have to have stigmata, two of which are in fact preserved. The postpositional construction τρίπόδικος ἀπο in the corresponding line of the strophe will also fit this triplet meter, but one must be cautious in equating the strophe's music with that of the antistrophe. The actual music may very well have been different. Nonetheless, the stigme over the vocal pi strongly suggests the necessity of a disema over the preceding syllable, and the stigme over the following vocal phi reinforces the case. Without the proposed disema, the secure stigme over the proposed pi would have no conceivable purpose; the stigme would have to fall on the third to last beat, but the vocal phi would have to be the fourth to last.

In sum, the ΩCΩN read in line 7 by Wessely conforms reasonably well with the traces left on the papyrus but bears no relation to the text of the mediaeval manuscripts, with the unattractive implication that the papyrus is a musical anthology that proceeds to a new piece of music without having finished out the last one. The ΩΝ accepted since Crusius cannot conform to the rules of Greek musical notation: the vocal note sigma falls too far to the left of the textual letter sigma; and the note rho stands over the letter nu, the last letter of a syllable (a musical impossibility). Hunger and Pöhlmann's restoration of a double epsilon conforms very well to the rules of Greek musical notation, but the placement of the accompanying musical notes too far to the left excludes their reconstruction. In an effort to reconcile all three considerations—the papyrus, the manuscript tradition and the rules of musical notation—I suggest a new colometry in lines 344–45 such that the letters beneath the extant vocal notes would necessarily (on metrical grounds) be TINA. This reading, while palaeographically difficult, (1) places the vocal note sigma properly above the textual letter tau, (2) places the note rho above the letter nu, which in τίνα begins rather than ends a syllable (a musical necessity), and (3) conforms to the mediaeval text. This arrangement further implies that the last extant musical note is probably a disema placed over a normally short syllable. The disema is consonant with the rhythmic stigmata over the following musical notes, and this modification of the scansion of line 345 is apparently an instance of the metric poikilia attested by Aristoxenus and Dionysius; that such must be

23 No one has yet offered a plausible explanation for the disema over the vocal note pi in this line or in lines 1, 3, 4 and 5.
specially marked suggests the normality of the contrast between long and short syllables. The Orestes papyrus thus offers new clues not only to the ancient colometry of the antistrophe but also to the rhythmic performance of music and poetry in Greek tragedy.

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*February, 1977*