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HARMONIA AND ETHOS IN ANCIENT GREEK MUSIC

THOMAS J. MATHIESEN

The study of ancient Greek music has held the interest of modern scholarship since the Renaissance, when the widely attested powers of ancient music began to attract the attention of a number of the humanists. From the very first, two subjects within the field of ancient Greek music were seen as especially troublesome and were given particular scrutiny. These are the subjects of harmonia and ethos. The difficulty with these subjects lies in part in the fact that ancient authorities disagree among themselves, and it has therefore seemed that the subjects must remain forever in the realm of philosophical dispute, eluding all attempts at systematization. This is not to say that scholars ignored the subjects. In fact, there have been a number of notable works dealing with these matters, including Girolamo Mei's unpublished *De modis musicis antiquorum* (autograph in Vaticanus latinus 5323)—dating from the sixteenth century, the beginning of modern scholarship on ancient Greek music—and, more recently, studies by Hermann Wiegandt, A. F. Walter, Hermann Abert, E. M. von Hornbostel, L. P. Wilkinson, James Riley, Edward Lippman, Warren Anderson, J. García López, and Lukas Richter.¹ All these works are incisive and combine technical remarks about modes, scales, pitches, and so on, with general philosophical treatments of music and character, but none of these—nor any of the other studies that might be cited—attempts to systematize the ethical characteristics of ancient Greek music or to show a close relationship between harmonia and ethos. Nonetheless, it is possible to develop and demonstrate a reasonably precise system for the analysis of the ethos in pieces of ancient Greek music. This system leans heavily on the *De musica* of Aristides Quintilianus, which unquestionably provides the most detailed and comprehensive ancient treatment of the subjects of har-

¹Hermann Wiegandt, "De ethico antiquorum rhythmorum caractere auctore Aristide Quintiliano" (Ph.D. diss., Halle, 1881); Anton Friedrich Walter, "Die ethisch-pädagogische Würdigung der Musik durch Plato und Aristoteles," *Vierteljahrsschrift für Musikwissenschaft* VI (1890), 388–415; Hermann Abert, *Die Lehre vom Ethos in der griechischen Musik* (Leipzig, 1899; reprint ed., Tutzing, 1968); Erich M. von Hornbostel, "Tonart und Ethos," *Festschrift für Johannes Wolf zu seinem sechzigsten Geburtstag*, ed. W. Lott, H. Osthoff, and W. Wolffheim (Berlin, 1929), pp. 73–78; L. P. Wilkinson, "Philodemus on Ethos in Music," *Classical Quarterly* XXXII (1938), 174–81; James Riley, "Ethos in Greek Music" (M.M. thesis, College-Conservatory of Music of Cincinnati, 1948); Edward Lippman, *Musical Thought in Ancient Greece* (New York, 1964; reprint ed., New York, 1975); Warren Anderson, *Ethos and Education in Greek Music* (Cambridge, Mass., 1966); J. García López, "Sobre el vocabulario ético-musical del Griego," *Emerita, boletín de lingüística y filología clásica* XXXVII (1969), 335–52; and Lukas Richter, "Antike ästhetische Theorien zur gesellschaftlichen Funktion der griechischen Tragödie," *Die griechische Tragödie in ihrer gesellschaftlichen Funktion*, ed. Heinrich Kuch, Veröffentlichungen des Zentralinstituts für Alte Geschichte und Archäologie der Akademie der Wissenschaften der DDR, XI (Berlin, 1983), 173–92.

monia and ethos, and which pulls together all the various disciplines—philosophy, harmonics, metrics, psychology, and cosmology—that bear on these subjects.

In order to explain the system, it will be necessary first to treat the concept of harmonia. The notion of mimesis, especially as it is formulated by Aristides Quintilianus and the Platonists, must then be reviewed. With this as background, the analytical system may be extracted from the treatise of Aristides Quintilianus and applied to three early fragments of ancient Greek music. Some preliminary conclusions will then emerge.

Harmonia

A full and systematic discussion of the term harmonia—even limited to its use in ancient Greek music theory—would extend far beyond the limits of this paper. Because my discussions have already appeared elsewhere,² it will be most expeditious to make some straightforward statements about harmonia that will be necessary for our understanding of the larger subjects in view.

Harmonia in ancient Greek music theory must be understood on two levels, depending on the approach (or, perhaps, on the sophistication) of the theorist. Theorists primarily concerned with music as an analogue for higher philosophical truths conceive the harmonia as manifesting certain basic proportions, orders, and characters mimetic of higher universals, even when applying the term to certain scales or genera, which are seen as analogues. This more comprehensive usage appears in the treatises of Aristoxenus (e.g., *Harmonica* 1.2, 4, 16, and 26), [Ps.-] Plutarch (e.g., *De musica* 34 [1143E]), Ptolemy to some degree (e.g., *Harmonica* 3.3-7, 10-11), and especially Aristides Quintilianus (*De musica* 1.1, 3, 8, 11-12, 19; 2.4, 6, 7, 12, 14, 16-17; and 3.6, 9, 12, 22, and 27). It must be stressed that these usages occur in proximity to usages of terms like *enharmonios*, *tonos*, *eidos*, *tropos*, and so on; thus, harmonia may not be considered a simple synonym for these other technical terms, though it does subsume these technical concepts. On the other hand, theorists representing the second-century revival of ancient theory (such as Cleonides and Gaudentius) who seem to have viewed music essentially as a system rather than as a “consort of philosophy”—as Aristides Quintilianus refers to it—tend to concentrate on the limited technical sense of harmonia, while remaining aware (to a greater or lesser degree) of the larger perspective.³

²Thomas J. Mathiesen, “Problems of Terminology in Ancient Greek Theory: ‘APMONÍA,’” *Festival Essays for Pauline Alderman*, ed. Burton Karson (Provo, 1976), 3–17; and idem, *Aristides Quintilianus on Music in Three Books*, Music Theory Translation Series (New Haven, 1983), pp. 42–57. See also useful articles by Kathleen Schlesinger, “The Harmonia,” *Music Review* V (1944), 7–39 and 119–41; Isobel Henderson, “The Growth of the Greek ἀρμονία,” *Classical Quarterly* XXXVI (1942), 94–103; and Olof Gignon, “Zum antiken Begriff der Harmonie,” *Studium generale* XIX (1966), 539–47; and the still indispensable monograph of Bonaventura Meyer, *APMONIA. Bedeutungsgeschichte des Wortes von Homer bis Aristoteles* (Zürich, 1932).

³Mathiesen, “Problems,” pp. 3–4, 17.

It is therefore necessary to keep in mind when studying ancient Greek music theory that a *harmonia* is not a *harmonia*. The same may be said, by the way, for some of the other technical terms that appear throughout the Greek theoretical tradition. Greek musical theorists are not separate from their philosophical or technical context, and their treatises must be studied in a larger intellectual context if one is to understand them. Historians of music theory have realized this for many years in connection with terminology in medieval and Renaissance music theory, but the lesson has been all too rarely applied to ancient Greek music theory.

Harmonia in its fullest sense, then, is a unification of things that appear on a lower level to be dissimilar or unrelated or lacking in order. This sense of the term appears clearly in the *Phaedo* and *Timaeus* of Plato, in *Politica* 8.5 (1340b18-19) and *De anima* 1.4 of Aristotle, in Plutarch's *De animae procreatione in Timaeo*, and in the musical treatises as well, for instance in Aristides Quintilianus *De musica* 3.6. Thus, to choose three examples, the octave is a *harmonia* (cf. Aristides Quintilianus *De musica* 1.8; 2.12), a proportion like 2:4:8 (which may also produce octaves) is a *harmonia* (cf. Aristides Quintilianus *De musica* 3.6), and a *tonos* is a *harmonia* (cf. Aristides Quintilianus *De musica* 1.10; 2.14). Each of these provides a unification and an order for lower level entities such as dissimilar numbers, groups of notes, or rhythmic patterns. From this definition, it should be easy to see two things: (1) how less sophisticated theorists (and some modern commentators) began to think of *tonos* and octave species as synonymous with *harmonia*, and (2) while an octave, a proportion, or a *tonos* are *harmoniai*, the converse is not true: *harmonia* is not an octave, a proportion, or a *tonos*.

Given this general definition for *harmonia*, it will not be surprising to discover that the term is also used in connection with cosmology, ethics, metaphysics, and other branches of Greek philosophy. Moreover, the term often appears in passages where musical parallels are explicit, as for instance in the *Phaedo*, noted above. This is important because it might otherwise be assumed that the term is being used metaphorically or at least in a sense unrelated to music. But if *harmonia* as a concept might relate divergent branches in Greek philosophy, it may be possible to discover how that much-vaunted power of ancient Greek music—the ability to convey and affect *ethos*—actually worked. In fact, this relationship of divergent philosophical branches through *harmonia* is one of the central features of the treatise of Aristides Quintilianus,⁴ and the treatise provides a means for distilling a system to analyze the ethical quality of a composition.

Aristides Quintilianus and Platonic notions of mimesis

The treatise of Aristides Quintilianus is quite unlike other ancient Greek musical treatises in that it is not a technical work but rather an elaborate

⁴This matter is discussed at length in my Introduction to *Aristides Quintilianus*, pp. 14–57.

work of philosophy that attempts to show how music through harmonia provides a comprehensible model for understanding physical and metaphysical realities and thus for attaining higher knowledge through philosophy. The treatise begins with a study of the technical details of harmonics, rhythemics, and metrics; proceeds to a consideration of the effect of music on character; and concludes with an exegesis of number, the soul, and the order of the universe. Since all of these sections are related cumulatively in the most intricate way, the concluding sections naturally provide reasons for the powers and phenomena observed in the earlier sections.⁵

It has long been observed in general terms that the Platonic notion of mimesis is in some way related to music's power to affect and effect ethos. Indeed, one might even say that the notion of mimesis is fundamental to the notion of musical ethos, at least in the ancient Greek sense. It is therefore necessary at this point to review mimesis as the process through which harmonia imbues music and through which ethos is developed in response to music.

The concept of mimesis is exceedingly difficult to condense, despite the important work by S. H. Butcher, Hermann Koller, Paul Moraux, and Gerald F. Else.⁶ Nevertheless, Aristides Quintilianus once again provides a great deal of help in his rather specific remarks about mimesis in music. *De musica* 2.4 points out that since the soul is naturally attracted to whatever is like one or another of its parts, mimetic arts may affect the soul. The notion of the soul's attraction is based—perhaps—on Plato's *Timaeus* and *Sophista*, but it is also considered in Aristotle's *Metaphysica* 1.6. The parts of the soul, of course, are the rational and irrational parts—the latter further divided into the thymic (or, aggressive) and epithymetic (or, indulgent) parts (these are elegantly characterized in Plato's *Phaedrus* 245-248 and *Timaeus* 41E-42D). Musical mimesis is especially powerful, according to Aristides Quintilianus, because it is not a simple imitation of things but is rather an imitation of life itself, capable of raising the soul once again to the harmonia of the universe:

The reasons for music's actuality are apparent. For inasmuch as our first learning comes through similarities, which we conjecture by attending to our sensory perceptions, painting and sculpture teach only through vision and the likeness both excites and amazes the soul; how then could music fail to captivate, since it makes its mimesis not through one sensory perception but through many? Even poesy uses hearing alone through pure diction, but it does not always move passion without melody or adapt it to the underlying matters without rhythms. For instance, if ever it is necessary to move passion in accord with the interpretation, such a thing does not result without slightly altering the voice in the

⁵*Ibid.*, pp. 14–15.

⁶S. H. Butcher, " 'Imitation' as an Aesthetic Term," *Aristotle's Theory of Poetry and Fine Art with a Critical Text and Translation of the Poetics*, 4th ed. (London, 1911; reprint ed., New York, 1951); Hermann Koller, *Die Mimesis in der Antike* (Bern, 1954); Paul Moraux, "La 'mimesis' dans les théories anciennes de la danse, de la musique, et de la poésie," *Etudes classiques* XXIII (1955), 3–13; and Gerald F. Else, " 'Imitation' in the Fifth Century," *Classical Philology* LIII (1958), 73–90. Note also the useful article by W. Tatarkiewicz, "Mimesis," *Dictionary of the History of Ideas*, 5 vols., ed. Philip P. Wiener (New York, 1973), III, 225–30.

direction of melody. Only music teaches both by word and by the counterparts of actions, not through motionless bodies or those fixed in a single form, but through animate bodies, of which it alters both the figure and the motion to the kindred form in accord with each of the actions recited. These things are evident both from the dance of the ancient choruses, the trainer of which is the science of rhythmic, and from the things written down by many authors about delivery. Those arts having materials that are special may not lead quickly to a notion of the action, for to some the colors, to others the mass, and to still others the phrase have suggested things alien to the truth. But music persuades most palpably, for it makes its mimesis with such means as happen also to carry out truthfully the actions themselves. Since in the usual order of things, will leads, word follows, and thereafter action is accomplished, music imitates the ethoses and passions of the soul in the notions, the words in the harmoniai and the molding of the voice, and the action in the rhythms and motion of the body.⁷

In *De musica* 3, Aristides Quintilianus shows how all the parts of music—pitch, scale, tonos, rhythmic pattern, and so on—are like the order of the universe, and therefore through mimesis, music may make the order of the soul like the order of the universe. Thus, the harmonia of music may create a like harmonia in the soul, and this in turn creates a particular ethos. In *De musica* 2.14, Aristides Quintilianus states:

By using the harmoniai in the aforesaid ways—either presenting a harmonia to each soul by similarity or contrariety—you will disclose the inferior ethos lying hidden, heal it, and instill a better one. You will persuade, if ignobility and stiffness should lurk, by leading through a middle state to the opposite condition; and if refinement and usefulness should be present, by augmenting them through similarity in symmetrical proportion

As I said, the harmoniai are like dominating intervals or surrounding notes, and these are like the movements and affections of the soul. That notes, even of continuous melody, mold through similarity a nonexistent ethos in children and in those already advanced in age and bring out a latent ethos, the disciples of Damon showed. In the harmoniai transmitted by him, it is possible to discover that sometimes the feminine, sometimes the masculine of the movable notes either dominate or have been employed to a lesser degree or not at all, since it is evident that a harmonia is utilized in accord with the ethos of each soul.⁸

With this sense of the mimetic power of music, it is now possible to see the sort of analytical system that might be distilled from Aristides Quintilianus' treatise. The descriptions of ethos, harmonia, the technical parameters of music, and the musical psychology are so consistent throughout the treatise that they may be arranged and classified as shown in Table 1 below.

The table illustrates two of the indispensable components of any piece of Greek music: rhythm and melos.⁹ These components are further subdi-

⁷Aristides Quintilianus *De musica* 2.4 (trans. from *Aristides Quintilianus*, pp. 118–19).

⁸Aristides Quintilianus *De musica* 2.14 (trans. from *Aristides Quintilianus*, pp. 144–45).

⁹Melos is the combination of words, melody, gesture, and rhythm (see Aristides Quintilianus *De musica* 1.12 and Mathiesen, "Problems," pp. 5–6).

vided into masculine, feminine, and medial characteristics. By applying these characteristics to the musical fragments, a dominant ethos may be determined in the fragment, and it may then be considered whether this ethos would match the character and function that might be assumed from a study of the text of the fragment.

Application to the fragments

Any number of fragments might be chosen for analysis, but it would surely be best to concentrate first of all on the two earliest surviving fragments, since they are most likely to exhibit the classical conceptions of harmonia and ethos described by Aristides Quintilianus. These two fragments are P. Wien G2315 and P. Leiden Inv. 510, both dating from the third century B.C. and both ostensibly preserving music from Euripides' *Orestes* and *Iphigenia in Aulis*.¹⁰

Figure 1 exhibits a transcription of P. Wien G2315,¹¹ which preserves *Orestes* 338-344; a table of the notes found in the fragment and their relation to the harmoniai given in Aristides Quintilianus' *De musica* 1.9; and a full analysis of the fragment, following Aristides Quintilianus' system, as shown in Table 1.

In the analysis, the melos has been shown on two levels: that of melos vowels and that of the notes themselves and the tonoi, scales, and octave species they imply.

The rhythmic area reveals fifty-five masculine elements, sixty-nine feminine elements, and twenty-nine medial elements (note the summary to Figure 1). This would seem to provide generally a medial ethos, with perhaps a slight feminine emphasis. In rhythmic terms, the composition is ambiguous in ethos.

A different picture emerges from the melos. Ignoring for the moment the notes themselves, one finds fifty masculine and medial masculine elements (i.e., thirty-four masculine melos vowels and sixteen medial masculine melos vowels), with only twenty-one feminine and medial feminine elements. This would seem to convey a decidedly masculine ethos. Only a small portion of the notation remains, but as a random sample, it may be statistically valid. Here again, a review of Table 1 will show that the stationary notes are medial in character, while the movable notes are either

¹⁰The matter of the proper transcription of these fragments is, of course, significant to any study of ethos, but it must be assumed for the present that the published transcriptions of the fragments are at least reasonably accurate. The *Orestes* fragment appears in Egert Pöhlmann, *Denkmäler altgriechischer Musik*, Erlanger Beiträge zur Sprach- und Kunstwissenschaft, XXXI (Nürnberg, 1970), pp. 78-82; the *Iphigenia in Aulis* fragment appears in Thomas J. Mathiesen, "New Fragments of Ancient Greek Music," *Acta musicologica* LIII (1981), 14-32.

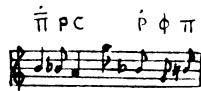
¹¹In the transcription, I have added the rhythmic values (Pöhlmann transcribes the piece with note heads alone) indicated by the rhythmic notation and the rhythmic values of the text and have changed the low instrumental note (□) from the F# of Pöhlmann's transcription to an E, which is the proper reading for this Greek notational symbol.

TABLE 1
Characteristics of Ethos in Ancient Greek Music
Based on the System of Aristides Quintilianus

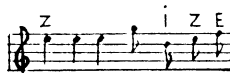
RHYTHM (masculine)		
Masculine	Feminine	Medial
Long vowels (η, ω)	Short vowels (ε, ο)	Dichrona (α, ι, υ)
Rough mutes (ϑ, φ, χ)	Smooth mutes (κ, π, τ)	Medial mutes (β, γ, δ)
Double consonants (ζ, ξ, ψ) and spirant (σ)	Liquids (λ, μ, ν, ρ)	Composite feet
Feet dominated by long syllables	Feet dominated by short syllables	
MELOS (Feminine)		
Masculine	Feminine	Medial
Vowels ο and ω	Vowels ε and η	Vowels α (more masculine), ι and υ (more feminine)
Lichanoid notes (lichanos hypa- ton, lichanos meson, paranete synemmenon, paranete die- zeugmenon, paranete hyper- bolaion)	Parhypatoid notes (parhypate hypaton, parhypate meson, trite synemmenon, trite die- zeugmenon, trite hyperbo- laion)	Stationary notes (proslambanome- nos [more feminine]; hypate hy- paton and hypate meson [more masculine]; mese followed by diezeugmenon [more feminine]; mese followed by synemmenon [more masculine]; and par- amese, nete synemmenon, nete diezeugmenon, and nete hyper- bolaion [more masculine])
Scales bounded by masculine notes	Scales bounded by feminine notes	Scales bounded by medial notes
Gapped scales with predomi- nantly masculine notes	Gapped scales with predomi- nantly feminine notes	Gapped scales with predominantly medial notes
Dorian mode	Lydian mode	Phrygian mode
Instruments pitched from F to B ^b	Instruments pitched from b ^b to b ^{b'}	Instruments pitched from B ^b to a ^b

Figure 1. Analysis of P. Wien G2315 (Euripides *Orestes* 338-344)
According to the System of Aristides Quintilianus

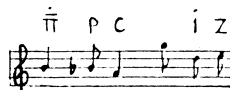
Dynamic names		Alypius symbols		Aristides Quintilianus	
		vocal	instru- mental	Dorian	Phrygian
paranete diezeugmenon	g'		Z	a' Θ	⌈
trite diezeugmenon	f'	E		g' Δ	Δ
paramese	e'	Z		e'* E	E
mese	d'	I		e' Z	Z
chromatic lichanos meson	b	π	⊖	d' I	I
parhypate meson	b ^b	P		a# Π	Π
hypate meson	a	C		a* P	P
lichanos hypaton	g	Φ		a C	C
				g Φ	Φ
hypate hypaton	e		⌋		



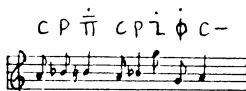
Text κατολοφύρομαι ἱματέρος αἶμα σθς,
 Rhythm D F F D F M D F F M D M
 Melos m M M f M M m F M M m M
 Notes M F m F M M



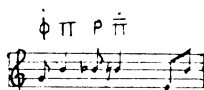
Text ὁ σ' ἀναβακχέει. ἱὸ μέγας ὄλβος οὐ
 Rhythm F D D M M M F F D M F M
 Melos M m m m F F M F m M M M
 Notes m m m f m F



Text μόνιμος ἐν βροτοῖς, ἱὸ ἀνὰ δὲ λαῖρος ὥς
 Rhythm F D F M F M D D F M F M
 Melos M f M F M M m m F M M M
 Notes M F m f m



Text τις ἀπάτου θοᾶς τιναῖας δαίμων
 Rhythm D D D M FM D M M M M
 Melos f m m M MM f m m M M
 Notes m F M mF M m



Text κατέκλυσεν ὁ δεινῶν
 Rhythm D M D M M M
 Melos m F f F F M
 Notes M M F M

14 medial masculine notes
 3 medial feminine notes
 Tonos: Lydian
 Octave species: Phrygian
 Scale bounded by masculine
 notes
 Rhythmic pattern: doch-
 miacs (mixed)

masculine or feminine. The medial notes may have a masculine or feminine inflection.¹² The notation in this fragment shows twenty-six masculine and medial masculine elements, and only eleven feminine and medial feminine elements. It immediately strikes one that the notational proportion complements almost perfectly the ratio of melos vowel elements. The proportion 26:11 is almost identical to the proportion 50:21. In terms of the melos, therefore, the ethos of this part of the chorus is decidedly masculine.

How does the rhythmic pattern relate? The rhythm (or meter, if one prefers) of the fragment is dochmiac. Aristides Quintilianus' *De musica* considers this to be a "mixed rhythm" and states (2.15) that these types of rhythms create a disordered affect. Aristides Quintilianus does not assign specific masculine, feminine, and medial characteristics to rhythmic patterns (except in the general terms shown in Table 1); he ascribes instead certain affects to them. Thus, rhythmic elements convey characters, while patterns convey affects. So, although the rhythmic elements provide a medial ethos, the rhythmic pattern conveys an affect of disorder.

Finally, there is the matter of tonos. The tonos of the fragment is generally considered to be Lydian. The octave species, which has not received much attention in published treatments of this fragment, is probably Phrygian (though Dorian and Mixolydian are also possible, if the instrumental notes are included in the pattern), and—as an interesting coincidence—the notes of the fragment also match the Phrygian and Dorian harmoniai given by Aristides Quintilianus' *De musica* 1.9, where he states that these are "exceedingly ancient." If the tonos dominates the ethos, there is a feminine ethos here. But if it is the harmonia and if the harmonia in this fragment is Aristides Quintilianus' Dorian or Phrygian (the latter matching the octave species), there is either a masculine or medial ethos.

Some conclusions may now be drawn from the data. The rhythmic elements are medial in ethos, the melos elements are decidedly masculine, the rhythmic pattern creates a disordered affect, and the harmonia is masculine or medial. Thus, the fragment would seem to convey a masculine ethos with some mediation and an agitated affect.

How does this character match the character and function of this chorus in the tragedy? The fragment comes from a point near the beginning of the tragedy. Electra has dominated the first scene, along with a chorus of Argive

¹²The characters assigned in Table 1 come from the various characters assigned to vowel sounds in Aristides Quintilianus *De musica* 2.11–13 and the use of some of these vowels in a solmization system to sing each note of the Perfect Immutable System, as described in *De musica* 2.14. See Aristides Quintilianus, pp. 33–34 and 139–46.

maidens. Orestes is also present in a frenzied state. Electra tells Orestes that Menelaus has arrived and is coming to see him. After she exits, the chorus begins, a chorus of anguish and weeping, full of disordered images of struggle and question that fit the agitated dochmiacs with their many successive short syllables. But the chorus also serves to introduce Menelaus. The masculine ethos would therefore seem appropriate to the appearance of Menelaus, and the disordered affect foreshadows Menelaus' own agitation expressed in his opening speech. It would be premature on the basis of one example to draw a firm conclusion about the relationship of musical and dramaturgical ethos in this chorus, but one might at least say that the ethoses seem reasonably cohesive. Another fragment may provide additional evidence.

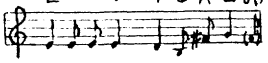
Figure 2 exhibits a transcription of P. Leiden Inv. 510, which preserves *Iphigenia in Aulis* 783-796; a table of the notes found in the fragment; and a full analysis of the fragment, once again following Aristides Quintilianus' system as shown in Table 1. The analysis follows the same pattern used for the *Orestes* fragment.

Figure 2. Analysis of P. Leiden Inv. 510 (Euripides *Iphigenia Aulidensis* 783-796, According to the System of Aristides Quintilianus

Dynamic names	Alypius symbols			
	Hyperaeolian	Hyperphrygian		
chromatic paranete diezeugmenon	b ^{b'}	⊥		
nete symmennon			b ^{b'}	⊥
diatonic paranete symmennon			a ^{b'}	⋈
chromatic paranete symmennon	g ^{#'}	⋈		
trite symmennon	g'	∪		
paramese			g'	∪
mese	f ^{#'}	A or /	f'	ς
diatonic lichanos meson	e'			
parhypate meson	d'	I		
diatonic lichanos hypaton	b	O	b ^b ,	Π
chromatic lichanos hypaton	b _b ,	Π		
parhypate hypaton	a	C		
hypate hypaton	g [#]	T		

Hyperaeolian

⌵ . | ⏲ A U A) .



Text

μήτε ἐμοὶ μήτε ἐμοῖσι τέκνων τέκνους ἐλπὶς ὅδε ποτὲ ἔλθου

Rhythm

M F F M M F F M F M M M M F D F F F M M

Melos

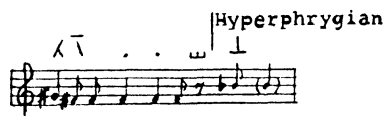
F F F M F F F M f F M F M F f m F M F F M

Notes

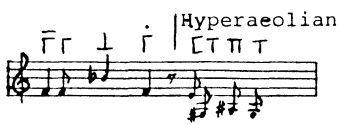
M M M M F M m F m



Text	οἶαν αἱ πολύχρσοι λυδαὶ καὶ φρυγῶν ἄλοχοι στήσουσι παρὰ ἱστοῖς μυθεῖσθαι
Rhythm	MD M FM D M D M M D M D F M M M D D D M M D M M
Melos	Mm M M f f M f M M f M m M M F M f m m f M f F M
Notes	FF F M m Mm m m m



Text	τάδε ἐς ἀλλήλας· τίς ἄρα μὲ εὐπλοκάμου κόμας ῥῦμα δακρυόεν
Rhythm	D F F M M M D D D F M F D M F M M D M DFM
Melos	m F F m F m f m m F F M m M M m f m m fMF
Notes	M m m m m m m



Text	τάδς γὰς κατ' ῥίας ὀλομένας ἀπολωτιεῖ; διὰ σέ, τὰν κύκνου δολιχαύχενος γόνον,
Rhythm	DD M M DD F F F D D F M D M DD F M M M F D M F M F F
Melos	mm M m fm M M F m m M M f F fm F m f M M f M F M M M
Notes	mm m m Mm M m

Key

- D = medical dichrona
- M = masculine
- F = feminine
- m = medial masculine
- f = medial feminine

Summary

	Masculine
70	[7 rough mutes 20 double consonants and spirant 43 masculine syllables 33 masculine melos vowels 10 masculine notes

		Feminine
95	[	28 smooth mutes
		41 liquids
		26 feminine syllables
		24 feminine melos vowels
		5 feminine notes
		Medial
36	[	9 medial mutes
		27 medial syllables
		22 medial masculine melos vowels
		17 medial feminine melos vowels
		19 medial masculine notes
		Tonos: Hyperaolian and Hyperphrygian
		Octave species: Mixolydian
		Scale bounded by medial notes
		Rhythmic pattern: choriambic (composite)

In the area of rhythm, there are seventy masculine elements, ninety-five feminine elements, and thirty-six medial elements (note the summary to Figure 2). Here again, this would seem to imply a medial ethos, with a slight feminine emphasis. In rhythmic terms, the ethos of the fragment is ambiguous, but somewhat feminine.

The melos, as was the case with the *Orestes* fragment, shows a masculine ethos in the fifty-five masculine and medial masculine elements (i.e., thirty-three masculine melos vowels and twenty-two medial masculine melos vowels) and forty-one feminine elements (i.e., twenty-four feminine melos vowels and seventeen medial feminine melos vowels). This is certainly less markedly masculine than the *Orestes* fragment. In this fragment, too, only a small portion of the notation survives, but it may claim statistical validity. There are twenty-nine masculine and medial masculine notes, as against only five feminine notes. There are no medial feminine notes at all. If one considers the melos vowels and melos notes together, eighty-four masculine and medial masculine elements and forty-six feminine elements appear. So far the ethos of this fragment is less clear than that of the *Orestes* fragment.

The rhythmic pattern of the fragment is choriambic. Aristides Quintilianus considers this pattern to be composite by conjunction, which—as can be seen from Table 1—creates a medial ethos. The predominance of long syllables, however, conveys a more masculine quality (note *De musica* 1.23, 26; 2.15), and this matches, as will be shown, the solemn nature conveyed by the prayer in this part of the chorus.

The tonos of the fragment is Hyperaolian and Hyperphrygian; the octave species appears to be Mixolydian, which according to Aristides Quintilianus' *De musica* 1.9 is threnodic or feminine.

The conclusions that can be drawn about this fragment are less consistent than those for the *Orestes* fragment. The rhythmic elements are medial in ethos with a feminine emphasis, the melos elements are more masculine by far (though the relationship of the melos vowels and melos

notes is not as precise as it was in the *Orestes* fragment), the rhythmic pattern creates a medial quality with some masculine emphasis, and the harmonia and tonos are clearly feminine. Thus, the fragment would seem to be medial because of the dominant feminine harmonia and the masculine melos combined with the medial rhythmic pattern.

A consideration of the function of this chorus in the tragedy may help in understanding the ambiguity of the ethos. The chorus' function is problematic in this work because the chorus appears in one place in the manuscript tradition and another place in the papyrus, unless the papyrus represents some sort of anthology with the solo and choral parts not necessarily in the proper order. Adding to the problem is the fact that it is not certain whether Euripides finished this tragedy or whether some of it is spurious. *Iphigenia in Aulis* was produced posthumously and scholars have questioned the authenticity of some parts of the work.¹³

In the manuscript tradition for *Iphigenia in Aulis*, the chorus precedes the first appearance of Achilles; in the papyrus, the chorus follows the departure of Iphigenia to be sacrificed. If the manuscript tradition is correct, one might expect by analogy with the *Orestes* fragment that the chorus would have a masculine ethos to introduce Achilles while at the same time conveying a disordered affect in keeping with the knowledge of Agamemnon's treachery. On the other hand, if the papyrus represents an alternate version of the tragedy (or Euripides' intended order), one might expect the chorus to convey a calmer, neutral ethos in keeping with the grandeur of Iphigenia's decision to accept her sacrifice willingly. Moreover, the text is one of supplication, and the dominance of the long syllables, as has been noted, conveys a quality of solemnity suited to supplication. Iphigenia's heroic quality at this point in the tragedy could thus be emphasized in the masculine ethos of the melos, the lamentation appropriate to the text foretelling the fate of Phrygia in the harmonia, and the dispassionate acceptance of Iphigenia's fate in the rhythmic pattern. If this analysis is correct, it may serve to suggest that this chorus does indeed belong at the end of the tragedy, following line 1509, and to support the appropriateness of the medial ethos conveyed by all the elements of the setting.

It may be objected at this point that the evidence for the ethoses of these two choruses is conflicting and the system therefore does not work. But it must be remembered that Euripides was noted for his unusual and complex approach to tragedy and for his avoidance of stereotyped characters and moods. It should therefore be surprising if a Euripidean chorus conveyed one and only one ethos in all its parts. Moreover, Aristides Quintilianus (*De musica* 2.16) makes it clear that complementary ethoses were the norm rather than a uniform ethos in every part:

¹³See G. M. A. Grube, *The Drama of Euripides* (London, 1961), pp. 421, 438; Denise Jourdan-Hemmerdinger, "Un nouveau papyrus musical d'Euripide (présentation provisoire)," *Comptes rendus de l'Académie des Inscriptions et Belles-Lettres* (1973), 292–302; Giovanni Comotti, "Words, Verse and Music in Euripides' *Iphigenia in Aulis*," *Museum philologum Londiniense* 2 (1977), 69–84; and Mathiesen, "New Fragments," pp. 24–25.

In the perfect actuality of music, a suitable notion is determined, and seemly diction, a scale akin, harmonia of notes, qualities of rhythm, and use of instrument are made homologous. We must apply the perfect types of musical creation when the extreme is in no way harmful. But sometimes we must mix and beware of otherness, lest somewhere, because of the extreme, we unknowingly lead the underlying ethos in the opposite direction. . . . We must make a mixture not through bare opposites (for this is unsuitable and repellent) but rather through harmoniously arranging the means with the extremes: for example, with a masculine scale, not a feminine but rather a medial rhythm; or with a more feminine rhythm, a medial scale and instrument, not only an opposite one; and in like manner for the rest, producing out of masculinity and the middle state or femininity and the middle state a mixture of one with the rest or two or even more with more.¹⁴

It should also be noted that the two fragments happen to come from tragedies that are generally regarded as unusual in their structure and particularly in their use of chorus. This may, incidentally, also explain why these particular fragments exist. The peculiarity of their character may have necessitated their notation and thus insured their survival. In *Iphigenia in Aulis*, the chorus is unusually passive and plays a largely neutral role. The ethos discovered in the fragment seems to match that neutrality quite well. In *Orestes*, the chorus fills its more usual role in Euripides' work of being directly involved and sympathetic to the main characters. Thus, the more definite ethos in the *Orestes* fragment is to be expected.

The conflicting evidence of the two Euripidean choruses may also lead one to wonder if all the fragments would demonstrate such complexity or ambiguity. A summary of one additional composition may serve to dispel this question. The first segment of the Delphic hymn by Limenios (Delphi Inv. Nr. 489, 1461, 1591, 209, 212, 226, 225, 224, 215, 214)¹⁵ exhibits an altogether feminine ethos. In the rhythmic area, it presents fifty-nine masculine elements, 118 feminine elements, and only eleven medial elements.¹⁶ In the area of melos, it has only seven masculine notes as against thirty-one feminine notes and thirty-six medial notes. It also has fifty-two feminine and medial feminine vowels and fifty-three masculine and medial masculine vowels. It is in a Lydian tonos with a Phrygian octave species, and the rhythm is dominated by short syllables. Except in the area of melos vowels and octave species, which are medial in ethos, the ethos is feminine, which surely fits a text invoking the Muses.

¹⁴Aristides Quintilianus *De musica* 2.16 (trans. from *Aristides Quintilianus*, pp. 150–51). This excerpt reflects the theory of contraries, which operate in mimesis (cf. Aristotle *Metaph.* 10.8 [1058a8–28]); on this excerpt, cf. Plutarch *De musica* 33.

¹⁵The hymn is published in Pöhlmann, pp. 68–76.

¹⁶I.e., there are thirteen rough mutes, thirteen double consonants and spirants, and thirty-three masculine syllables (totaling fifty-nine masculine elements); and, on the other hand, there are thirty-one smooth mutes, fifty-two liquids, and thirty-five feminine syllables (totaling 118 feminine elements).

Conclusion

It may be argued that an analysis of ethos based on so many minute details has no chance of illuminating a truly functional effect in pieces of music because audiences could not possibly grasp or be affected by such minutiae. Yet this argument may easily be defeated. It is known from early treatises such as Dionysius of Halicarnassus' *De compositione verborum*, Ps.-Longinus' *De sublimitate*, and various works of Hephaestion—not to mention the technical observations of Plato and Aristotle—that the Greeks had an extraordinarily subtle sense of their language. This subtlety has also been admirably demonstrated by modern scholars, especially by W. B. Stanford and W. Sidney Allen.¹⁷ It is also known from the writings of Plato, Aristotle, Philodemus, Sextus Empiricus, and others that the Greeks did perceive the ethos conveyed by theatrical works and music and that they were concerned with this subject.¹⁸ Finally, it might be noted that the affective or ethical quality of such musical features as keys, modes, rhythms, and even pitch vibrations was still observed and seriously treated by modern philosophers like Leibniz—who proposes that the soul, in listening to music, unconsciously counts the beats of the tones, compares their mathematical ratios, and appreciates the mathematical relationships as “unarithmétique occulte”¹⁹—and by systematic theorists at least as late as Daniel Gottlob Türk and Johann Philipp Kirnberger.²⁰ It is not, of course, the individual minute elements of any composition, ancient or modern, that convey ethos, but rather their collective effect.²¹

Harmonia and ethos in ancient Greek music are inextricably linked and overarch the whole body of *mousike*. By studying the fragments with the aid of Aristides Quintilianus' system, it may be possible to come closer to an understanding of the special power and beauty of both the music—even in its fragmentary state—and the theory.

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¹⁷W. B. Stanford, *The Sound of Greek: Studies in the Greek Theory and Practice of Euphony*, Sather Classical Lectures, XXXVIII (Berkeley, 1967); and W. Sidney Allen, *Accent and Rhythm: Prosodic Features of Latin and Greek: A Study in Theory and Reconstruction*, Cambridge Studies in Linguistics, XII (Cambridge, 1973).

¹⁸Note especially Aristotle *Politica* 8.5 (1340a1–b19); Philodemus and Sextus Empiricus take a skeptical view of ethos, but their denial nonetheless affirms the prominent place of musical ethos in Greek thought.

¹⁹“Remarks on an Extract from Bayle's Dictionary,” *Philosophischen Schriften*, ed. C. J. Gerhardt, 7 vols. (Berlin, 1880), IV, 550.

²⁰Daniel Gottlob Türk, *Klavierschule* 6.3 (*School of Clavier Playing*, trans., introduction, and notes by Raymond H. Haggh [Lincoln, 1982], pp. 337–53); Johann Philipp Kirnberger, *Die Kunst des reinen Satzes in der Musik* 2.2, 4 (*The Art of Strict Musical Composition*, trans. by David Beach and Jürgen Thym, introduction and notes by David Beach, Music Theory Translation Series, 4 [New Haven, 1982], pp. 314–46, 375–417).

²¹Note Plutarch *De musica* 33–36.