Title
Singing Ancient Greek: A Guide to Musical Reconstruction and Performance

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Publication Date
2014-02-14

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A Guide to Musical Reconstruction

and Performance

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2011

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num igitur hi [sc. poetae] sine musice?
But do they [poets] exist without music?
Quintilian, Institutio oratoria 1.10.29

FOREWORD

Music, for the Greeks, included everything the Muses presided over, but particularly poetry, music and dance (as we use the words) together. Poiein means to create, compose, and the poiētes (m.) or poiētria (f.) was a maker, creator, composer, poet. With the lyric composer-poets (Pindar, Sappho et al.) music may even have been considered the primary element, as embodied in the sung and danced rhythm. In comedy and tragedy it played no less indispensable a role. My contention is, to put it very plainly, that we have inherited sufficient information about ancient Greek music and its performance to create a convincing music for those works where it is missing, from Homer through Sophocles.

Classics scholars really cannot be faulted for not having searched as diligently as they might have for the Greeks' musical voices, though there have been and are a few exceptions: the prospect of having to fill a classroom with song when Greek verbs are shouting for attention could hardly be a welcome one for many professors. Nevertheless, if we are presented with the real possibility of finding something like an authentic musical voice, then find it we must, if only for the benefit of our fuller understanding of the compositions of which we are the present guardians and interpreters. This is, at least, my working theory here, a theory that has been reinforced, as noted in the Introduction, by recent discoveries about how speech and song are processed in the human brain. If we can accept the methods and results of reconstruction, then a repertoire we prize for its literary beauty and power can take its rightful place as a sounding reality and a vital part of the world's musical heritage.

A thorough grasp of the present method of reconstruction and performance will require some knowledge of ancient Greek, owing to the necessarily intimate connection between the words and the musical expression of them. In order to provide at least a basic demonstration, however, to those who have little or no Greek of the techniques that I employ, I present a portion of the examples of each poetic type with a transliterated text in parallel with the Greek. (The Greek texts of supporting material are all presented in transliteration, with apologies to those who find this objectionable.) The rest of the reconstructions

use the Greek orthography only; to them I have made additions or modifications as noted (Introduction, p.10) to present the text as performed rather than in the standard written form of our printed editions. Basic familiarity with musical notation is also necessary for reading and understanding the musical materials and reconstructions.

My development of the reconstructions and their performance practice in these pages has unfortunately been limited somewhat by a lack of students upon whom to try out and evaluate my methods. I have had considerable assistance and encouragement from others, nevertheless, most of all from Warren D. Anderson, of whose brief, sympathetic mentoring I was the fortunate beneficiary until it was cut off, just before we were to have met in person for the first time, by his death in 2001. Those who have listened to the music or read and commented on some of the present work, or both, include Charles and Lindsey Shere, Gary Ferngren, David Eiseman, Owen Daly, Ann Basart, Terry and Ann Riley, W.A. Mathieu, Devi Mathieu, and Richard Crocker, all of whom I thank for their interest and support.

I am particularly grateful, too, for the challenges offered by my two principal Professors of Greek at the University of California, Berkeley, Elroy Bundy and Gerson Rabinowitz (who set me looking for Homer's song); to Prof. Emeritus C. Bennett Pascal of the University of Oregon for his Greek tutorials (and who bears no responsibility for whatever mistreatment I may have inflicted on the language here); and to John Koegel and Brenda Montiel for their 1995 invitation to contribute to a Festschrift for the distinguished musicologist Roland Jackson, which resulted in my paper on reconstruction and performance.* Nor without the invaluable aid of Smt. Prof. S.S. Janaki of the Sanskrit College, Madras, India, would I likely have come to understand the living tradition of sung Sanskrit poetry of many kinds, which became the key to my work in Greek and Latin.

Beyond the first problem I was confronted with in my 1997 "Experiments" essay, the melodic function of the grave accent in ancient Greek prosody, the present method relies on a handful of hypotheses that are supported more or less solidly in ancient sources and modern scholarship, but that will nonetheless be

*"Some Experiments in Singing Ancient Greek and Latin Verse," Music in Performance and Society: Essays in Honor of Roland Jackson. Harmonie Park Pr., 1997, 3-35.

controversial: the addition of rests to the rhythmic schemes of lyric compositions; proposals for a Phrygian harmonia, one of them quite radical; acceptance in the principles for reconstruction of evidence of the possibility that the pitch accents of the verbal text could be accommodated by a repeating melody in strophic compositions, at least in Sappho and Pindar; and an unorthodox interpretation of the employment of the enharmonic pyknon in melody. These and other aspects of reconstruction and performance practice are subject to constant scrutiny and refinement. Much that is notable in the ancient musical cultures, however, remains untried here: dithyramb, nomos, skolion, for example; the aulos and tibia have been left for others to investigate; dance, as essential as it is to Greek music, is barely touched on.

As mentioned in the Introduction, we have today the advantage of access to most of the ancient Greek sources on music thanks to many, but especially to Andrew Barker. Many of the Greek texts are available in the Loeb Classical Library series, and Broude Bros. Ltd. has published handsome facsimile reprints of John Wallis's 1682 critical edition, with Latin translation, of Ptolemy's Harmonics (1977), and of Marcus Meibom's similar edition of seven treatises in two volumes (Aristoxenus, Euclid (Cleonides), Nicomachus, Alypius, Gaudentius, Bacchius senior and Aristides Quintilianus) (Antiquae musicae auctores septem, 1652)(also 1977), in their series Monuments of Music and Music Literature in Facsimile. (It should be noted that the largest proportion by far of modern sources I have relied on are in English.)

In Appendices I-V of his Poetry into Drama: Early Tragedy and the Greek Poetic Tradition (Sather Classical Lectures, 1978; U. of California Pr., 1985), John Herington offers his own quite comprehensive collections--the only ones I know of in one location--of ancient information on the performance of poetry, from religious festivals to the solo and choral song (and dance) of lyric compositions. These (along with the background and interpretation his book itself provides) are an invaluable resource. For performance information on tragedy and comedy, especially the resources of the singing actor and the chorus, Arthur Pickard-Cambridge's The Dramatic Festivals of Athens$_2$ (Oxford: Clarendon, 1968) is still indispensable; note, however, that for "flute' one must read "aulos" or "pipes," and the extensive ancient material in Greek is untranslated.

My 1997 essay began with Latin compositions (Horace, Vergil, Ovid) on the theory that most anyone who might try my musical experiments would find it easier to learn the basic musical principles using the Latin poetry based on Greek models, before moving on to the Greek. I was chided gently but firmly for this by Warren Anderson, who wrote me (in 1998) that the world of classical scholarship had little or no room for Roman song. This may be changing; we now have a well crafted and quite persuasive case for Horace as composer and performer in Stuart Lyons's Music in the Odes of Horace (Aris & Phillips, 2010), although I have some doubt that Lyons's repeated reference to Horace as an "entertainer" is helpful to his case.

The present study begins with the Greek; Latin compositions are treated in an appendix that is devoted mostly to the particular difficulties of Latin pronunciation and prosody. Greek compositions appear in nearly chronological sequence, but this does not imply a "progression" of some sort: pre-Homeric Greek song, all of it lost, must have included compositions of great rhythmic subtlety and complexity, as we find in the earliest Sanskrit hymns.

While the typescript that follows this temporary foreword has been improved under the eye of several generous colleagues, it has not been scrutinized by a specialist in this area of classical studies, a lack that will surely be evident, though I hope not excessively so. At this point, though every care has been exercised with typography and proofreading, especially of the Greek texts, omissions, inconsistencies, redundancies, false quantities--errors, too--inevitably remain.

I regret that it has proved impossible for me, even over a number of years, to produce a recording satisfactory to me of any of the compositions presented here. In any case, a recording, frozen forever in time, cannot capture the living qualities of actual performance, especially in orally transmitted literary and musical traditions. Difficult or even impossible as it may be to learn music from a book, a book is what I offer. I hope that anyone looking for the sound of the musical voices of classical antiquity will find clues to that sound here. I dedicate this volume to the memory of Elroy L. Bundy and of Warren D. Anderson.

LIST OF PRINCIPAL SOURCES AND ABBREVIATIONS

AGM	West, M.L. Ancient Greek Music. Clarendon Pr., 1992
AQ	Aristides Quintilianus. De musica (Peri mousikes). English translation by A. Barker, GMW 2, p.392-535
DAGM	Documents of Ancient Greek Music ..., edited and transcribed with commentary by Egert Pöhlmann and Martin L. West. Clarendon Pr., 2001
DH	Dionysius of Halicarnassus. Critical Essays II. With an English translation by Stephen Usher. LCL, 1985
GG	Smyth, Herbert Weir. Greek Grammar. Rev. by G. Messing. Harvard U. Pr., 1920/R1956
GL	Greek Lyric. Ed. and transl. by David A. Campbell. In five volumes. LCL, 1982-93
GM	West, M.L. Greek Metre. Clarendon Pr., 1982/R1996
GMW 1,2	Greek Musical Writings. I: The Musician and his Art; II: Harmonic and Acoustic Theory. Ed. and transl. by Andrew Barker, with extensive notes. Cambridge U. Pr., 1984, 1989
IGM	West, M.L. Introduction to Greek Metre. Clarendon Pr., 1987
LCL	Loeb Classical Library. Harvard U. Pr., 1912-
$LMGD_2$	Dale, A. M[arjorie]. The Lyric Metres of Greek Drama. 2nd ed. Cambridge U. Pr., 1968
MMAG	Anderson, Warren D. Music and Musicians in Ancient Greece. Cornell U. Pr., 1994
NG_2	The New Grove Dictionary of Music and Musicians. 2nd ed., edited by Stanley Sadie and John Tyrrell. Macmillan, 2001
OCD_3	The Oxford Classical Dictionary. 3rd ed., edited by S. Hornblower and A. Spawforth. Oxford U. Pr., 1996
SA	Parker, L.P.E. The Songs of Aristophanes. Clarendon Pr., 1997
VG	Allen, W.S. Vox Graeca: The Pronunciation of Classical Greek. 3rd ed. Cambridge U. Pr., 1987

Note: + in the left-hand margin of a page indicates a correction or addition, on p.271, to the text at that point.

SINGING ANCIENT GREEK

1. INTRODUCTION: Why? What? How?

> Durus ... was forever writing verses for some imaginary arja play. These verses were in the strictest classical style, I discovered, although the subject was often a considerable surprise. One day he commemorated in verse an account of an agreeable excursion we had made the day before. ... Durus had composed this little poem in the meter of Durma, which has seven lines of different length to a verse. ...
>
> This is a handsome poem, I said. You must read it.
>
> But instead of reading it he sang it to me, in the chant proper to the meter. Poetry could not be read, it seemed; it must be sung.
>
> One day he returned ... with a rare text he had discovered[:] ... a book of recipes and ingredients for different dishes, written in verse. But when I gave it to Madé Gria, the [scholar and] dalang, to read, he looked at it for some time, and at last, finding the stanzas unfamiliar, he said,
>
> I cannot read it, for I do not know the tune.
>
> But never mind the tune; just read the words.
>
> But he only repeated, I can't; I do not know the tune ...
>
> Colin McPhee, A House in Bali (New York, 1946), 98-9

It is easy for me to believe that in an earlier, less impoverished era of human history, at a time when we were more in tune with the living world of which we are a part, vocal communication was a melodious interchange. Difficult as it may be for us to imagine today, it seems quite possible that speech has evolved as levelled song (as I am inclined to believe, in the spirit of Rousseau and Darwin). Not completely levelled, of course, since pitch inflection is an essential element of human speech, though usually not considered melodic in any sense.

This levelling effect is something we may actually have a record of; it seems to happen about the time that writing began to be used extensively. In the archaic Greek world, Hesiod tells us that he was taught to deliver his precepts and divine genealogies in song by the Muses themselves[1]; Homer and the other aoidoi (bards) sang their historical accounts, which we usually think of as "tales." They are typical of the way history, culture, and the laws and customs (nomoi) of society[2]

are transmitted by oral tradition, and they are typically sung, in part because the repetitive rhythm and melody are a significant aid in creating, remembering and recollecting in performance a verbal text. A living example of this is the sacred texts of Sanskrit, which are sung from memory today as they have been for millennia.

As to the ancient Greek compositions that have come to us, I like to recall the injunction, quoted by Lionel Pearson in the Introduction to his edition of the Elementa rhythmica of Aristoxenus, of a grammarian "of uncertain date" named Diomedes, referring to lyric compositions, that we should sing Greek poetry, "even if we do not know the tune."[3] I would extend his exhortation to include every kind of poetic composition that we know was meant to be sung.

Words have a strikingly different effect when sung--even chanted on a monotone--than when spoken. The origins of this difference have only quite recently been made clear: sung and spoken utterances are processed differently in mostly different parts of the brain; newer brain-imaging technology shows these differences clearly in subjects as they sing or speak, and apparently even as they hear song or speech.[4] What this must mean is that it is impossible for us to comprehend fully or develop a complete sense of or feeling for a body of compositions, such as that of ancient Greece, that was meant to be perceived and understood through the medium of song, unless we ourselves experience it that way. So, we have to sing, even if modestly: private singing is instructive; group singing is even more rewarding. No special vocal gifts are necessary to lead us to a grasp of the synergic effect of the fusion of words and melody. The music that we will sing of course must be almost entirely reinvented, but, luckily, enough information has survived about the Greeks' music and its performance that this task is far from impossible, as I hope to demonstrate in the chapters that follow.

A great deal survives of the Greeks' documentation of the nature and uses of music in their society over centuries, documentation that includes music theory, comment on and criticism of compositions and performances, a few quite late fragments of notated music, and a wealth of pictorial information from vases, bowls and the like.

Of particular importance here are their numerous reflections on the history, as they understood it, of their own music, and on changes in musical style, beginning with that of the Homeric bards, down to the musical revolution that began at the end of the fifth century BCE. We have the views on musical developments not only of such compilers as the authors of the Aristotelian Problems and the Plutarchian On Music, along with Athenaeus (themselves relatively late), but also from Plato, Aristoxenus, Aristophanes and numerous others, who are generally quite clear about what is admirable and worthy of emulation--or otherwise--in the musical practice of their own time.

We are especially fortunate today that in recent decades most of this surviving testimony has been made available in English, above all in the two volumes of Greek Musical Writings, edited and excellently translated and annotated by Andrew Barker, which include those sources just mentioned as well as the treatises on music theory of Aristoxenus (all that survives), Aristides Quintilianus and Ptolemy. Several recent volumes that treat and interpret ancient Greek music as a whole have greatly advanced our understanding (building on the insights of one of the great scholars of the subject, the British classicist R.P. Winnington-Ingram), particularly Martin West's Ancient Greek Music and Warren Anderson's Music and Musicians in Ancient Greece.[5]

It is this wealth of information from antiquity, not fatally diminished by time's depredations, as it illuminates the fundamentals of rhythm and melody that are inherent in the transmitted verbal texts of the compositions themselves, that allows us, I am convinced, to dare to venture reconstruction of much of the lost music.

How much? The revolution that we call the New Music and is associated mainly with Euripides and Timotheus was seen as a dramatic break with the past: music that had been straightforwardly built on the rhythms of the long and short syllables of the words acquired new rhythmic freedoms, and new melodic independence superseded what seems to have been a quite strict melodic limitation to the tonal shapes of the words, given by the written accents. Plato had decreed that the music must follow the words (probably implying that some music of his time did not), while three centuries later Dionysius of Halicarnassus says exactly the opposite.[6] The

New Music embraced virtuoso instrumental performance and contests as well, activities also disliked by Plato.[7]

The evidence we have of the New Music is slender; apart from a few descriptions, there are the briefest of fragments in musical notation, the two most important of which were possibly composed by Euripides.[8] Some later compositions of Euripides and of Timotheus seem conspicuously lacking in the rhythmic coherence of the older styles, as several scholars have noted.[9] Lacking musical examples of the melodic and rhythmic freedoms characteristic of the New Music, we can hardly begin to imagine its nature and sound, and are forced to conclude that, absent the revelation of substantial new material, its reconstruction is beyond our reach.

As for the music of the earlier age, it is described by later admirers as, for example, "simple and dignified in character," and "limited to a few strings," i.e., pitches; it "rejected multiplicity of notes and complexification (poikilia)" and remained "simple, ... so much better than those that are complex and use many notes."[10] We have further, wonderfully backhanded confirmation of the "old" style of music from Aristophanes, whose Euripides says of Aeschylus, "I can show he's a bad composer who always writes the same thing" (Frogs 1249-50); an isolated line from an unknown work (fr.467) refers to musical performance that is "not the way they first sang, seven-stringed, all alike." (Timotheus notoriously increased the number of lyre strings from seven to eleven; a larger complement of strings became standard, and "seven-stringed" a term of disparagement.)[11]

This simple, old style, confined to the verbal rhythms and to melody in a limited vocal range, with limited pitches that are defined by the most used and admired of the Greeks' harmoniai (modes)--this ancient and by no means unbeautiful style of music is within our ability to reclaim, using as accompaniment something not entirely unlike what the Greeks used. Simpler is probably better, I infer from the ancient commentators' admiration for the "old" style, in maintaining without extraneous distractions the centrality to the performance of the verbal text, which is projected through music that one may say is inherent in it, adding to it the power of incantation.

After a presentation of ancient Greek pronunciation and of the melodic interpretation of the Greek word-accent notation, we begin with Homer, the foundation of all that follows him, as he was thought of by the Greeks, and as he remains here. The musical resources for singing Homer are limited; nevertheless, performing Homer well is challenging and requires the utmost attention to the expression of his words, and to clarity of diction perhaps above all. Mastering Homeric performance, including memorization, makes everything that follows easier.

Following Homer and epic song is a graded selection of compositions for reconstruction and performance, a selection that turns out to be roughly chronological, from the iambics and elegiacs of the archaic poet-composers through the strophic forms of Sappho, Alcaeus and Anacreon to the larger compositions of Pindar, Aeschylus, Sophocles and Aristophanes. Rhythmic and metric considerations are taken up ad hoc, and there are separate chapters on the tonal and intervallic materials of melody, as well as on solo and choral singing, the accompaniment of instruments, and dance.

Appendices are of two kinds: studies in somewhat technical detail of meter and rhythm, modes, scales, and tunings; and a number of larger musical reconstructions offered both as models and as material for performance. Appended also is a brief guide to the performance of the Latin imitations of Greek poetry.

There were a few attempts to recreate the lost music of the Greeks as early as the middle ages. Attempts to perform some of the notated fragments were also made: in the Introduction to his 1902 edition and translation of the Harmonics of Aristoxenus, Henry Macran recounts one such attempt, and the reaction to it:[12]

> Some years ago ... Sir Robert Stewart delivered a lecture in Trinity College, Dublin, on the Music of Distant Times and Places; and illustrated it by specimens from various nationalities and periods, an ancient Greek hymn being included in the number. It was the unanimous verdict of all the musicians present that, while the music of the less civilized nations was often crude, barbarous and monotonous

> to the highest degree, the Greek hymn stood quite alone in its absolute lack of meaning and its unredeemed ugliness; and much surprise was expressed that a nation which had delighted all succeeding generations by its achievements in the other arts should have failed so completely in the art which it prized and practiced most.

We live in a world today that is quite different, a world in which we hear and enjoy the very different musics of diverse cultures, thanks to technologies and travel, and to the development in the 20th century of the academic field of comparative musicology, which (as I see it) began by studying the music of non-Western cultures as exotic curiosities, and eventually contributed to the elevation of at least some of them--the music of Japan, Indonesia and West Africa, for example, and especially those traditions with an ancient and sophisticated theory of music, India, China and the Arab civilization--to a high status in the West. It is only quite recently, I think, that someone could write, as did Warren Anderson in 1994, of the search for "the heard, sounding reality" of ancient Greek music, "We must venture beyond [the traditional preoccupations of philology], to music history as well as the discipline of ethnomusicology. Doing so means employing comparative techniques, which classical philologists have been slow to accept."[13]

The music of the ancient Greeks fell silent long ago; as important as their theories of music were in the early development of Western music, there seems to be little evidence of the influence of the music itself. Yet I believe that the Greeks nurtured one of the great musical cultures of the world. A substantial part of that culture remains available to us--above all, of course, the literary texts of the musical compositions. The music itself has been brought nearer through increasingly convenient access to the primary evidence, and through recent interpretive studies, particularly those of West and Anderson, that only the musical ecumenism of our time could have produced. It is a propitious moment to bring all these resources to a search for a practical, credible, and not least, beautiful "sounding reality."

Terminology, Notation, Texts

The technical terms used here are a mixture of what has seemed to me to work best: some are from the ancient theorists and metricists; some are from modern Classical scholarship; a good many are current musical terms. I use several kinds of musical notation, including Western staff notation, as well as the generally accepted symbols of metrical scansion.

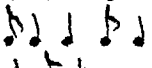
To express rhythm, two durational values, long and short, will normally suffice. The latter I sometimes refer to as the unit; it is symbolized by the short-syllable sign ⏑ (called by the Greeks prōtos chronos, "time unit"; in classical analysis, brevis, "short," or mora, "delay"), or its interchangeable equivalent, the eighth note (♪). The long takes the time of two shorts, and is represented by the sign ⏑ (longum) or the quarter note (♩).

The fundamental rhythmic figures as represented notationally here are:

iamb	⏑ –	
trochee	– ⏑	
dactyl	– ⏑ ⏑	
anapest	⏑ ⏑ –	
spondee	– –	

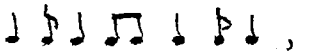
and are familiarly referred to as feet. The iambic and trochaic rhythms, however, appear regularly in our compositions mostly in pairs (the iambic trimeter is three pairs of iambs, or six iambic feet); for such a pair we will adopt the traditional term metron (plural, metra).

Some longer rhythmic patterns are also called metra by analysts, as they will be here; the most common are:

ionic	⏑ ⏑ – –		
choriambic	– ⏑ ⏑ –		
dochmiac	⏑ – – ⏑ –		(in its usual form)
cretic	– ⏑ –		(called either foot or metron)
epitritic	– ⏑ – –	 ;	

a few others will be added to these.

A rhythmic figure longer than these is generally called a colon (pl., cola), such as the glyconic formula,

– ⏑ – ⏑ ⏑ – ⏑ –  ,

the musical importance of which will emerge in due course.

Poetry is conventionally presented to us in lines, either as understood from a repeating structure, or arranged by an editor in a process called colometry. The technical term for a line is verse (Lat. versus); I generally use the word line, however. Poetry in which each line has the same metrical structure (e.g., the dactylic hexameter; English iambic pentameter) analysis calls stichic (Gr. stichos, line). This seems to me to make a quite unattractive English word, and I prefer to use the word unilinear. Stanza and strophe are used as commonly understood; the latter has a specific use that will be met later. A few other terms will be defined as they occur.

Not infrequently a long syllable will be replaced by two shorts; this is called resolution. The fusion of two normally short syllables into a long is normally called contraction. A fundamental characteristic of indoeuropean poetry is the indifference to length of certain positions in the line, especially toward its beginning. For example, the glyconic formula above quite often will begin with three long syllables rather than long-short-long; the variable syllable is technically called (syllaba) anceps (Lat. ambi-capitis, pl., ancipitia, of two natures, undecided), and is indicated either by ⏑̲ or X (my general practice), and in musical notation  or (ascending stem may show the preponderant duration).

At line end the final syllable is in performance almost always a long, either a long syllable or a short syllable followed by a rest that makes up the time of a long; the latter is referred to technically as brevis in longo, a short (syllable) in a long (element), and sometimes (probably erroneously) called "anceps." In my notation this final syllable will always be presented as a long duration, and those rare cases where it could be sung as a short duration will be specifically identified.

It is worth remembering that musical performance is a more natural, unifying process than may be suggested by the analytic technical terms that are employed here in the service of illuminating that process.

An essential musical aspect of this presentation is the interpolation of rests, that is to say, metrical pauses in singing, through which the instrumental accompaniment and dance movement will normally continue. Such rests are indispensable to performance and must be supplied in reconstruction; they are not indicated in the verbal texts we have, though it can be argued that they are regularly implied by the composer. The use of rests is a part of the consideration of each musical example below. I use the ancient sign for a rest found in the musical fragments, Λ (the Greek letter lambda, for leimma, an omission), as a general rest-sign with the ∪/- notation; examples in standard musical notation of course have the familiar signs for rests. (Since the word pause has a number of confusing meanings in metrical analysis, I prefer to avoid it.)

The musical term cadence is regularly employed here for a closing rhythmic or melodic figure rather than the classical analytic term clausula.

Pitch terminology is straightforward. Following the generally accepted convention, the central note of the Greek gamut, mesē, is set at a (the a below c' or "middle" c); the complete gamut runs therefore from A (proslambanomenos) to a' (nētē hyperbolaion), two octaves plus a whole tone, with the central vocal range of the Dorian mode being the e-e' octave. (See "Fundamentals of the Ancient Greek Pitch System," below, p.52-3.) For the tonal center or "home pitch" of a melody the modern musical term tonic is generally used.

Most of the reconstructions here are presented in Western staff notation; the actual interval tunings that are implied in these are those of Pythagorean intonation, unless a different intonation is specified. Equal-temperament intervals (as, for example, on a guitar) will generally provide serviceable approximations to Pythagorean tuning for experimental purposes, though not for more critical evaluation or performance. The larger question of appropriate interval tunings--a matter of central importance in the music of antiquity--will be taken up under Tonal Materials as well as in the appendix on Tuning Procedures.

The sources of the Greek texts used here are all cited in the appropriate places. Most often used are volumes of the Loeb Classical Library (published since 1912 by the Harvard University Press, and abbreviated LCL below). Recent editions in this series, in their traditional

facing-page format, are edited to a generally high critical standard, and the translations are good to very good. The translations of the texts of those works considered musically here, however, are my own, except as noted.

In each chapter, a representative portion of the Greek texts is presented in a Roman transliteration along with the Greek, in order that the principles being illustrated may be accessible to a reader without facility in the Greek alphabet. The transliterations serve another function that is basic to the present method, namely, to show the text as performed rather than as spelled; the modifications of the text that are required are explained in the following chapter.

To anyone pursuing the method of recovery, reconstruction and performance in the pages that follow, I recommend keeping present in the mind the following principles, which I believe are fundamental and necessary to the success and enjoyment of the undertaking:

1. Perfect your performance of Homer, the fons et origo of so much of the culture of ancient Greece, preferably by singing some every day, always giving particular care to pronunciation.

2. Memorize as much as possible: memory was the individual and collective repository of the Greek culture, and was a highly developed resource.

3. Value the simple solution over the complex.

4. Let the words always guide the music, and keep their meaning present as they are transformed into musical sound.

5. Learn a new text by first declaiming it, repeating it until its pronunciation, rhythms and accentual shapes are comfortably secure, as you listen for and gradually hear the melody in it.

6. Always give the voice an accompanying instrument.

7. Ignore concerns about a "beautiful" voice or "polished" singing; it is the musical projection of the words that is important.

Our reimaginings of the music of antiquity are always provisional; we are always ready to try out a better idea, to find a truer musical expression of a composition. Unlike reconstructions of physical objects, a sculpture or a building, for example, nothing is destroyed by rethinking or reworking a musical reconstruction.

NOTES (Introduction)

1. Hesiod, Theogony 31-2: "They breathed into me a heavenly voice , to celebrate things to come and things past" (ἐνέπνευσαν δέ μοι αὐδὴν | θέσπιν, ἵνα κλείομαι τά τ' ἐσσόμενα πρό τ' ἐόντα).

2. Theogony 66-7: "[the Muses] glorify the ordinances and the cherished customs of all the immortals" (πάντων τε νόμους καὶ ἤθεα κεδνὰ | ἀθανάτων κλείουσιν). LCL Hesiod, vol. 1, ed. and transl. by G.W. Most, 2006 (Most's translation slightly altered).

3. Oxford University Press, 1990, p. xlix. *p.13

4. Oliver Sacks, Musicophilia (New York: Knopf, 2007), particularly chapter 16, "Speech and Song: Aphasia and Music Therapy."

5. In addition there are Anderson's many valuable articles, long and short, biographical and topical, on the subject in The New Grove Dictionary of Music and Musicians (2nd ed., London: Macmillan, 2001, and New Grove On Line).

6. See Appendix below, "Rhythmics, Metrics."

7. Laws 669d-e, GMW 1, 154.

8. Two fragments of music to dramatic texts of Euripides, AGM 284-7, DAGM frontispiece, 12-21.

9. Some have professed to find such changes reflected in the characteristics of the poetic style. George Thomson observes in his Lyric Metre (1929; 2nd ed., Cambridge University Press, 1961, p. 150), quoting Euripides's Orestes 1381-92, that "in these extravaganzas, Euripides abandons the old rhythmical conventions in order to give scope to what must have been the central feature of such performances--the new experiments in melody and choreography.... [I]n general it is plain that the old principles, both of phrasing and composition, have broken down." Of Timotheus's Persae 26-31 he writes, "Here the revolution is complete; poetical beauty and rhythmical sublety, at least in so far as it was wedded to the words, have been thrown to the winds, and we are left with a mere operatic libretto." **p.13

10. The Plutarchian Treatise 1135d, 1137b, GMW 1, 218, 223; cf. AGM 356-7, Aristophanes's Clouds 966-72.

11. Frogs: kaì mḕn ékhō g' hoîs autòn apodeíxō kakòn
melopoiòn ónta kaì poioûnta taût' aeí.

fr.467: ouk hoîa prôton êidon heptákhorda pánt' homoîa.

12. Early re-creations: DAGM 5. The Harmonics of Aristoxenus, edited with translation notes introduction and index of words by Henry S. Macran, M.A. (Oxford: Clarendon Press, 1902), 2.

13. MMAG xi.

*(p.12) add: (taútēn oûn tḕn lurikḕn poíēsin deî metà mélous anagignṓskein, ei kaì mḕ parelábomen mḗte apomemnḗmetha tà ekeínōn mélē.)

**(p.12) add: See Barker's "The Musical Revolution of the Later Fifth Century,: GMW 1, Chapter 7; cf. AGM, Chapter 12, "The New Music," 356-72.

2. PRONUNCIATION 1: Word-Rhythm

The most challenging aspect of reconstruction and performance of the music of antiquity, I have found, has been deciding on, practicing, and maintaining a consistent pronunciation of ancient Greek. This is in part because I was as a student taught the standard anglo-american pronunciation, which is too far from the sounds (insamuch as we can know them) of the Greek pronunciations of antiquity to be suitable for their musical expression (and the use of the modern stress accent increases the alienation from the ancient sound-ideal); nevertheless I have found it a habit difficult to shake off.

The sounds I use are based on Allen's Vox graeca, differing in a few details, as I understand his written descriptions.[1] Performers need two somewhat different pronunciations at least; in my practice they are a generalized fifth-century style for most music from Homer through Pindar, Aeschylus and Sophocles, and a specifically Attic style necessary for Aristophanes. (Differences are noted in the tables below.)

The individual performer will have to decide on pronunciation details, practice them, and maintain a consistency of pronunciation as carefully as possible (by constant listening); the sound of the words is the basis of the musical performance, and must be clear and precise. It will require some time, effort and patience for beginners to establish this, the most fundamental aspect of the music.

In the following tables, the closest value in the International Phonetic Alphabet is given in the customary brackets.

Vowels. There are five pure vowel sounds in ancient Greek:

α (a) long or short, as Italian a [a]

η (ē) long, as in Italian open e [ɛ:], or as in English "pet,", but long; this vowel can tend toward the a of English "pat" [æ:], i.e., more open

ι (i) long or short, as Italian i [i]

ω (ō) long, as Italian open o [ɔ:], or as in English "saw"

υ (u) long or short, as in Italian u [u]; in later Attic as French u or German ü [y]

Note that Greek orthography does not distinguish between long and short values of α (a), ι (i) and υ (u). In the Greek text occasionally, and regularly in the transliterations, I indicate the long values where the length is consequential.

Diphthongs (all take the time of a long vowel)

αι (ai),(āi),as Italian ai [ai]

αυ (au), as Italian au [au]

ε, ει (e, ei), as Italian close e with light i-offglide, or as in English "day," but with lighter offglide. e and ei are short and long values of the same sound [e^i]

ευ (eu), as Italian close e with u-offglide [eu]

ηι (ēi), ē as above with light i-offglide [$ɛ:^i$]

ηυ (ēu), ē as above with u-offglide [ɛ:u]

ο, ου (o, ou), as Italian close o with light u-offglide; in later Attic, ou is pronounced as u [u:]. o and ou are short and long values of the same sound [o^u]

οι (oi), as Italian oi, or as in English "boy," but with closer o [oi]

ωι (ōi), ō as above with light i-offglide [$ɔ:^i$]

υι (ui), as Italian u with i-offglide [u^i]

Note that the diphthongs, as well as the long vowels ē and ō, can in practice be reduced to the length of a short vowel by local circumstances explained below under the technical term correption. The i-offglide of āi, ēi and ōi (written both as subscripts, ᾳ, ῃ, and ῳ, and--as here--as adscripts, αι, ηι, and ωι) was probably audible in elevated speech (Pindar, tragedy, etc.), but at some point disappeared.

Consonants

The following are as in Italian: β (b) (voiced bilabial) [b]; γ (g) (voiced velar) [g] (see exception below); δ (d) (voiced dental; not alveolar, as in English) [d]; κ (k) (mute velar) [k]; λ (l) (alveolar sonant) [l]; μ (m) (bilabial sonant or nasal) [m]; ν (n) (dental sonant or nasal) [n] (see note below under "semi-vowels"); π (p) (bilabial mute) [p]; ς, σ, ς (s) (unvoiced alveolar fricative) [s]; τ (t) (dental--not alveolar--mute) [t]. The mutes are unaspirated, as in Spanish. As in Italian, both consonants of a twinned pair are pronounced.

There are three mute aspirates: θ (th) [t^h], φ (ph) [p^h] and χ (kh, often transliterated as ch) [k^h], pronounced as in English "tin," "pin" and "kin," respectively, but with more aspiration (breath explosion).

The following consonants require more detailed description:

γ before the velars γ, κ, ξ, χ (ng before g, k, x, kh) (velar sonant) as ng in English "sing" [ŋ] (ṅ in my transliterations here)

ζ (z or sd), a double consonant, is sounded sd/zd until quite late, then as dz

ξ (x) is the double consonant ks

ψ (ps) is the double consonant ps

Ϝ (w) is the digamma (obsolete, or in certain dialects), as in English "win" [w]

ρ (r), ῥ (rh) trilled, as in Italian and Spanish; rh is strongly aspirated as well (r+h together) [r ; r^h]; initial ῥ (rh) is possibly unvoiced [r_o^h]

῾ (h) is the "rough breathing" sign--over an initial vowel or diphthong or (r), a strongly aspirated h (unvoiced glottal fricative) [h], including, in my own practice, within compounds generally, as explained below; it does not count as a consonant in prosody (cf. VG, 52-6)[1a]

Note that I never voice sigma (s), nor do I pronounce γ (g) as ṅ before μ (m), Allen to the contrary.

Semivowels (Sonants, Continuants)

The consonants λ, μ, ν, ρ (l, m, n, r) serve also as vocalics: they can and do carry a musical pitch like the vowels and diphthongs.[2] In my transliterations such vocalics are underlined; as such they function as vowels in every respect, as will be seen in the musical examples. ν (n) is often a generalized nasal sonant (like the Latin m); in my treatment (confirmed by ancient epigraphic evidence) it will assimilate to a following consonant (as ṅ or m) where possible, and is reflected in the transliterated spellings, shown in the following example:

καρτίστην δὴ τήν γε μάχην φάτο δύμεναι ἀνδρῶν.
kartístēn dḕ tḗn ge mákhēm pháto dūmenai andrôn. (Iliad 6.185)
(Strongest was this battle, he said, that he went into with men.)

Syllable Length

Ancient Greek and Latin were quantitative in nature, that is, their words consisted of syllables of differing time-lengths, long and short; in musical verse generally

a long syllable and two short syllables take exactly the same amount of time to perform.

A syllable is long if it contains a long vowel or diphthong. If its vowel is short, the syllable will be long if its vowel is followed by two or more consonants or a double consonant (whether or not these are in the same word); otherwise it is short. Thus khṓrā̄ is two longs, theós two shorts; the first syllables of hĭ́ppos, ắnthos and lĕ́xō̄, for example, are long due to the consonant clusters, and in the phrase tòn d' ouk both syllables are long. There are some exceptions to these rules involving the combination of a consonantal stop plus a "liquid"--tr, kn, pl and so on--that we can put off consideration of until later.[3]

Pronunciation must accommodate itself to the precise durational relationship of long and short. Dionysius observes that certain vowel and consonant combinations require more or less time to enunciate, and thus in performance must be squeezed or stretched a bit to fit into a regular rhythm.[4]

Words themselves are rhythmic.[5] As examples of the primary feet listed in the first chapter, one might choose the Greek words egṓ (I) or érōs (love), iambic; ê̆ka (slightly) or phēgós (oak), trochaic; hetérē̄ (the other, fem.) or ágatai (he admires), anapestic; tēlóthi (afar) or ólbios (fortunate), dactylic. There are many such disylables as ḗdē̄ (already) and Moîrai (the Fates), spondees; and thamá (often) and kháris (favor, grace), pyrrhic. Metra include such words as teleutḗ (end), bacchiac; handánein (to please), cretic; and ā̆thánatoi (immortals, masc., in its usual poetic rhythm), choriambic. For Dionysius and the many teachers of rhetoric in antiquity, verbal rhythm was a primary concern in fashioning persuasive speech.

Then there is that characteristically musical aspect of the ancient Greek language, the accent.

NOTES (Pronunciation 1)

1. Sources of information on the pronunciations of ancient Greek include: Vox graeca: the pronunciation of classical Greek, by W. Sidney Allen, 3rd ed. (Cambridge: Cambridge U. Pr., 1987); The Greek Language, by L.R. Palmer (London, 1980; repr. University of Oklahoma Pr., 1996), p.201-11; The Pronunciation of Greek and Latin, by Edgar H. Sturtevant, 2nd ed. (1940; repr. Chicago: Ares, 1975); and The Oxford Classical Dictionary, 3rd ed., ed. by S. Hornblower and A. Spawforth (Oxford U. Pr., 1996), p.1254-5.

1a. below

2. The semivowels in Dionysius are λ, μ, ν, ρ, σ/ς/c (l, m, n, r, s) (DH 96-7). How the normally unvoiced sigma was sung on is a mystery to me. M.L. West comments on this aspect of performance in his 1966 edition of Hesiod's Theogony (repr. Oxford: Sandpiper, 1997), p.440.

3. GG (34-36) and VG (104-12) treat these matters in detail; cf. GM 8-18.

4. "[T]he former [i.e., long syllables] being . . . regarded as double the shorts, and the latter as half the longs" (ἐκείνας ἐν διπλασίωι λόγωι ... τῶν βραχέων καὶ ταύτας ἐν ἡμίσει τῶν μακρῶν), DH p.108-9; Quintilian gives the same proportion (Institutio oratoria 9.4.46, Loeb Edition (2001), v.4, p.187). That this temporal relationship is a given in such late sources (both are first century, C.E.) is an indication of its durability. Dionysus also said that in the dactylic foot the long takes a bit less time than two shorts (p.128-9; cf. also his treatment of "irrational" dactyls, p.162-5). This I believe applies only to spoken recitattion, not, as I wrote in my 1997 study (p.11, n.31), to sung verse. Varying lengths of longs and shorts, DH 106-7.

5. DH 122ff.

1a. Initial vowels and diphthongs of all Greek words invariably carry a breathing mark. The sign ᶜ over these indicates "rough breathing," the initial aspiration (h) described above. (Initial υ (u, upsilon) is always aspirated.) The "smooth breathing" sign ᵓ is in effect an instruction that the word does not begin with an aspiration.

3. PRONUNCIATION 2: Word-Melody

Ancient Greek is classified in modern linguistic terms as a pitch-accent language, a category it shares with spoken Japanese and a few other languages, in which almost all words contain one syllable whose pitch rises on its vocalic sound to a higher level than that of the rest of the word, and falls back within the same syllable or the next one. This gives each word a melodic shape that is preserved in the context of speech.[1]

By virtue of a most fortunate circumstance, the invention by Greek grammarians of an elementary musical notation that preserved the melodic shapes of almost all of their words, we have those word-melodies today; the invention was that of the accent-signs, the acute (´), grave (`) and circumflex (῀) (in the Latin-derived names by which we refer to them). Their word for this verbal melody was prosody (προσωιδία) (pros-ōidia), which, translated into Latin, gave us our word accent (ad-cantus), meaning the "melodizing" of a word.

We in the modern West are used to the stress-accent of most modern Western languages: a combination of length, loudness and pitch-inflection that makes some syllables more prominent to the ear than others. (Greek gradually became a stress-accent language, as did Latin and its descendants.) Nevertheless, there are examples in our speech of prominent pitch-accent, often in formulaic phrases: the English or French shopkeeper's stock

"Good morning, sir," or
"Bonjour, madame,"

Pitch profile: ¯ _ _ ¯

have a similar pitch-profile of low-low-high-middle. In both cases the highest pitch is on the "weakest" syllable ("-ing," "ma-"), to which the voice seems almost to bounce up from the primary stress of the phrase ("morn-", "-jour"). Another example is the introductory phrase of the yuppie-restaurant serving-person, for example, "My name is Brian, and I'll be your waiter." Both phrases here end with the highest pitch (like the interrogatory inflection, "My name is Brian?"), rising from a stressed to an unstressed syllable ("Bri-an," "wait-er").

This is quite similar to what happens in Greek, where the higher pitch can occur on any syllable, long or short (but: "No Greek accent can stand farther back than the antepenult" (GG, 37), a restriction character-

teristic of ancient Greek[2]); the melodic shape of a word is largely independent of its rhythmic shape, as we shall see. A Greek sentence is often a quite complex phenomenon, then, consisting of an independent rhythmic pattern of long and short syllables, the prosody's melodic profile, and in addition the possibility of heavier and lighter syllables and words that result from concatenations of consonants and vowels. (There are many lines to be found in Homer and elsewhere in which heavy syllables are created not only by virtue of their length but also from clusters of consonants and semivowels; perceived syllable weight is reduced, on the other hand, even of long syllables, by the use of vowels and semivowels in combination. Such effects can intensify the meaning of a phrase or line, and add to the performer's effectiveness, and thus it seems to me misguided to refer to long syllables as "heavy" and short as "light," as some modern scholars do.)

Pitch-accent differentiated words that were otherwise identical in spelling. (The accent-marks were not invented until about 250 BCE and were not regularly written until later.) Some examples: nómos (custom, law) and nomós (pasture); póte (when?) and poté (once, ever); kaleî (he/she/it calls) and kálei (call!, imperative). (Compare English "próject," noun, and "project," verb.)[2a]

The rules I use for the musical performance of the accents, based on my interpretation of the ancient sources and on the modern presentations of Allen, Postgate and others are as follows:

1. Acute accent: rises to a higher pitch within the syllable and falls back on the following syllable; can occur on a long or short vowel or a diphthong. (Note that a word bearing an acute accent on its last syllable is called oxytone.)

2. Circumflex accent: begins with a higher pitch and falls within the syllable; occurs only on a long vowel or diphthong.

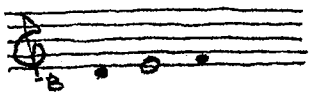
3. Grave accent: exactly like the acute, but usually at a lower pitch; for one or more syllables before the grave accent the voice will drop to a lower pitch, rising again on the accented syllable.

This scheme requires at least three different pitch-levels: middle, for most unaccented syllables and the grave accent; higher, for the acute and circumflex tones; and lower, for the preparation of the grave accent.

The operation of the acute and circumflex accents on the musical pitch of a syllable is quite straightforward. The significance of the grave accent in practice, however, is not so clear, and has been the subject of debate and conjecture. The most convincing explanation of its application, to my mind, and the basis of my treatment of it, as given above, is the change in its use over time in antiquity. In its later application, which continues today in ancient Greek texts, the grave accent replaces the acute accent on the final syllable of an oxytone word when such a word precedes another accented word in a connected word-sequence (kalós, for example, but kalòs paîs (handsome child)). In earlier practice, however, "the papyri prefer spellings like kàlos ànēr (for kalòs anḗr), perì-klùtos (for periklutós), etc.,"[3] quite clearly indicating that the pitch of the marked syllables is to be lower than that of the unmarked.

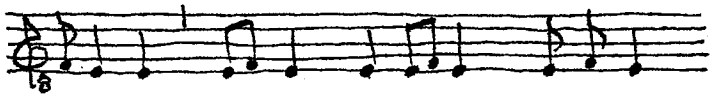
This explanation accommodates my principal rule of prosody, namely, that the melodic shape of each word is invariant, and is preserved in the context of continuous speech or song, always recognizable to the ear: again, the distinction, e.g., between nómos (falling pitch) and nomós (rising), must be audibly maintained.

The musical examples that follow will clarify these rules as we apply them to the "re-melodizing" of words. For the initial examples, we will need only three pitches, as mentioned above, which are taken from the ancient Greek Dorian mode (harmonia) in its oldest enharmonic form (the full scale of which we will use later):



the middle pitch, or tonic, e, and its upper and lower neighbors f and d. (The named pitches here are a modern convention, and will suit most voices, with women singing an octave higher. Any convenient transposition can of course be used. Even at this first stage it is useful and agreeable to have some sort of instrument to accompany the voice--a guitar, for example, zither, autoharp, mbira, etc.--note-for-note, in a simple unison or octave.)

1. Examples of the acute accent, using two tones only:

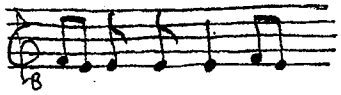


ἐρῑθοι / ἡμων ὀξείᾱς δρεπάνᾱς
erīthoi / ēmōn oxeíās drepánās (Iliad 18.550-1)
reapers were reaping, sharp sickles (in their hands)

Note that the short vowel has a single higher pitch, while the long vowel and diphthong have an ascending figure; in both cases, the pitch falls on the next syllable.

2. Examples of the circumflex accent, using two tones only:

θυγατρῶν εἶδος
thugatrôn eîdos (Iliad 6.252)
daughters' image



υἷες Ἀχαιῶν
huîes Akhai-ôn (stock phrase, Iliad)
sons of the Achaeans

Note that here the higher tone is at the beginning of the vowel or diphthong, and the pitch falls within the syllable. (In the ui diphthong of huîes and elsewhere*

3. Examples of the grave accent, along with acute and circumflex, using three tones:

καλὴν χρυσείην· μέλανες δ' ανὰ βότρυες ἦσαν
kalwèn khrūseí- ēn; méla- nes d' anà bót'-rues êsan (Iliad 18.562)
beautiful, in gold; dark throughout the grape-clusters were

Note the preparation of the grave accent (on a long and a short vowel) with the lower tone d.[4] The acute accent on bót'rues is on a closed syllable created by the stop t followed by the semivowel r. The syllable-closing consonant usually creates a brief silence, "stopping" the sound for an instant. The vertical stroke between the t and r is a conventional sign used with a mute-liquid pair to indicate that the syllable to the left of the stroke is long (cf. thugat'rôn, above, no.2).

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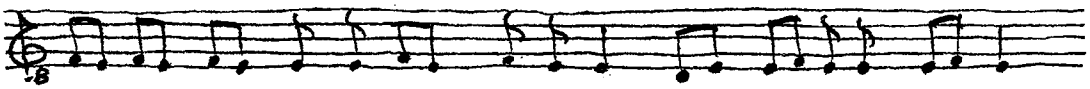
*the i hardens into the semivowel y, giving the approximate pronunciation hû-yes.)

Accent and Semivowel "Diphthong"

The frequently encountered combination of a short vowel and one of the semivowels l, m, n, r before another consonant I treat as a regular diphthong, the prosody following the normal rules for melodic treatment of the acute and circumflex accents. For example:

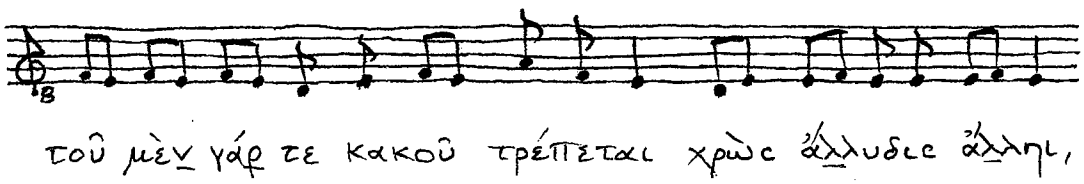


τοῦ μὲν γάρ τε κακοῦ τρέπεται χρὼς ἄλλυδις ἄλλη,
toû mèn gár te kakoû trépe-tai khrôs álludis állēi, (Iliad 13.279)
for the coward changes his skin one way and another,

where in treating mén and gár as diphthongs, I apply the circumflex-accent rules, allowing the higher pitch to stand on the vowel. In álludis and állēi the accented syllable cannot--by the accent rules--be treated as a circumflex, and must follow the rule for the acute accent on a diphthong; this places the higher pitch on the semivowel (l in these cases), as one can see. The higher pitch of an accent on a long vowel or true diphthong plus a semivowel, before a consonant, occurs entirely on the vocalic sound (cf. kalwēn in example 3, above). (Further examples can be found in the next chapter's Iliad passage.)[5]

Sentence-Accent

The musical sentence or phrase is much improved by the use at some significant point of a pitch higher than any of the basic tones. There seems to be some evidence for such a musical practice in antiquity;[6] I employ such an excursion once (or sometimes more than once, or occasionally not at all) in each phrase, sentence, or line of verse. Adding the new pitch a (from the Dorian scale) to a single syllable of the previous example gives us a considerably livelier line—



τοῦ μὲν γάρ τε κακοῦ τρέπεται χρὼς ἄλλυδις ἄλλη,

(I have added for variety another d on te)—as well as the four pitches to which I believe it is quite possible Homer sang and tuned his kithara.

NOTES (Pronunciation 2)

1. A.M. Devine and Laurence D. Stephens, The Prosody of Greek Speech (Oxford U. Pr., 1994), Chapter 4; Japanese and Greek, p.211ff. A beginning Japanese-language instructional recording offers a practical example of the sound of a pitch-accent language.

My primary source, again, is VG. Two other resources should be mentioned here: first, W.B. Stanford's The Sound of Greek: Studies in the Greek Theory and practice of Euphony (U. of California Press, 1967, with an LP of recorded examples), which contains an abundance of information from ancient sources. His remarks, in an appendix, "on the pronunciation of the Greek pitch accent" and its possible musical meaning I have found less than helpful, and perhaps even misguided. The other is The Pronunciation and Reading of Ancient Greek: A Practical Guide (2nd, revised ed.) by Stephen G. Daitz (2 cassette tapes and a booklet). Daitz's pronunciation guide may be useful; he is mainly concerned with recitation, and singing is not considered. He ignores the grave accent in his treatment of the prosody.

2. On this rule see the amplification in VG, 116-24.

2a. p.26, below

3. OCD_3, p.1255, s.v. "Pronunciation, Greek"; I have transliterated the Greek words. Also J.P. Postgate's A Short Guide to the Accentuation of Ancient Greek (London: Hodder & Stoughton, 1924), p.18-19, as well as the evidence on the nature of the grave accent marshalled by Stanford (above, note 1), p.158, 159-60n4, and the analytic presentation of Devine and Stephens, p.180-83, 354-5, 358, 430-1.

4. The basic accentual system has two pitch-levels, a higher one for accented syllables, and a lower for unaccented--that is, all other syllables. (Postgate, op. cit., p.19, quotes the grammarian Choeroboscus (5th c. CE or later) to this effect.) Musical considerations have led me to adopt a third pitch, lower than the "base" pitch of unaccented syllables, the better to accommodate the grave accent melodically, especially in Homer.

This is the melodic treatment generally of oxytone words in the Delphic Hymns, our only extensive sources of ancient Greek prosody in music (transcribed

from the musical notation in AGM, p.288-300, and DAGM, p.62-85, with commentary; analyzed by Postgate, p.16-18, and comprehensively by Devine and Stephens). In the Hymns, the pitch of the oxytone accent is almost always lower than that of the accent of the following word, and almost always approached from a lower pitch. Frequently the oxytone pitch is lower than the pitch of a preceding accent as well. The principles of musical prosody in the Hymns is formulated by Postgate as follows (p.17-18; cf. Devine and Stephens, p.172-3; AGM, p.198-200); they are generally compatible with my own practice:

> 1. The Accented syllable of a word is usually sung on a Higher, or at least not on a lower note, than the unaccented syllables.
> 2. In Long syllables which take two notes the First note is usually the Higher if the syllable has a Circumflex, but the Second if it has an Acute. ...
> 3. A Final Syllable with an Acute accent becoming Grave in the middle of a sentence is sung on a Higher note than the other syllables of its word; but on a Lower or at least not on a higher one than the Initial and the Accented Syllables of the following word. ...
> 4. Closed syllables consisting of a short vowel followed by a consonant like on, el, etc., as in am-brótan, Delphísin, are treated like syllables with long vowels and can be sung to Two notes. [Greek transliterated] ...
> 5. An unaccented Long syllable which immediately precedes or follows an accented syllable usually follows the Direction of the Accent pitch, i.e. its first part has the Lower note if it Precedes, the Higher if it Follows.

5. This is the only change in prosodic treatment from that of my 1997 essay. The confirmation of the "semivowel diphthong" from the Delphic Hymns is given by Postgate (his item 4 in the preceding note). Prosodic treatment of such cases as, for example, the first syllables of ál̲los or én̲tha as circumflex (rather than as acute) follows the rule that an accented long penult before a short final syllable must be circumflex. I have extended this principle to include oxytones and monosyllables such as tó̲n, mé̲n, etc. (The rules for the accents can be found in any grammar of ancient Greek.) Cf. the "Excursus" in West's Theogony edition (Ch.2, note 2, above), p.438-40, and VG, p.127n31.

6. Evidence for this from the papyri is cited in Poetry as Performance: Homer and Beyond by Gregory Nagy (Cambridge U. Pr., 1996), p.132n113.

2a. Certain frequently occurring words, as is easily noticed, have no accent, according the the rules of Greek prosody, which can be found in any Greek grammar. This should cause no alarm: such words will usually be sung at a level pitch, or at times may rise toward an accented syllable.

A variety of descriptions of the accents (including the "middle" accent of Aristotle, about which there is little modern agreement) can be found in the later grammarians; these seem to offer us little or no helpful information. See Postgate (note 3), p.11-13, 64-7; VG, p.122ff.

nos rite coepturi ab Homero videmur
"The proper place for us to begin is with Homer."
Quintilian, Institutio oratoria 10.1.46,
translated by Donald A. Russell (LCL, 2001)

4. HOMER AND EPIC SONG

The poetry of Homer and Hesiod, the Homeric Hymns, Hellenistic epic, most of the works of Vergil, Horace's Satires and Epistles, Lucretius's great metaphysical poem, the Metamorphoses of Ovid, and much more: all were composed in dactylic hexameters, the epic or "heroic" meter first used by the Greek bards, so far as we know. Yet it may come as a surprise (as it did to me) that the origins of this dignified yet energetic poetic formula are unknown. There is apparently nothing like it elsewhere in indoeuropean verse (the basic principle of which is syllable-count). Some scholars have speculated that it is an exotic borrowing, without being able to identify a source; others see it as an internal expansion that repeats the pattern — ∪∪ found in a shortened form of the glyconic line (which will be treated extensively in a later chapter), ⏑ ⏑ — ∪∪ — — .[1]

The epic line is flexible enough, in the limited variety offered by alternation of its two rhythmic patterns, long-short-short and long-long, overlaid with a constant variety of word-rhythms, to withstand hundreds, indeed even thousands of repetitions in a performance without becoming tiresome.[2] By contrast, the long Indian poems--Mahābhārata, Bhāgavata, and so on, compositions that are traditionally sung--are arranged in stanzas of various lengths and meters.

Just as Greek literature, wisdom, politics and most everything else seem to acknowledge Homer--at least nominally--as their fons et origo, so here too will all our musical study devolve from him, and mastery of his style will be the sine qua non of the understanding and mastery of the later poet-composers, both Greek and Latin. Before going on to later poetic compositions, particularly the more complex styles, one should ideally have become completely comfortable with the singing of Homer, especially the Greek pronunciation and metrical idiosyncracies; secure rhythm is essential, as is the development of the breath.

Little need be said here about Homer himself, or, one might say, the innumerable Homers that have been portrayed over the millennia. The image I particularly like is perhaps a self-portrait, the "inspired singer" (theîon aoidón)

Dēmodocus ("Credit to the People"), of whom Homer sings in the Odyssey, who was "surely taught by the Muse...or by Apollo" (ē sé ge Moûs' edídaxe ... ē sé g' Apóllōn), a singer who, in an imagined recursion into the depths of the past, would have sung of other singers, singers who "are entitled to be cherished and to their share of respect" (timês émmoroí eisi kaì aidoûs).[3]

Recent scholarship and critical thought on Homer and his great epics is readily found through such resources as OCD_3 or The Cambridge Companion to Homer, a collection of essays by different scholars (containing typically very little about music), edited by Robert Fowler (Cambridge U. Press, 2004). It is still rather shocking to realize that it was only in the early 20th century that the unique style and shape of the Homeric epics came to be explained, through Milman Parry's investigation and theory of oral composition. Parry tested his theory--successfully, as is now generally conceded--with his intensive field studies and recordings of the epic-song tradition of the illiterate bards of Yugoslavia.[4]

Originally varying in length and content from one performance to another, Homer's tales were assembled and put in writing, probably in the early eighth century, just as the Greek alphabet was coming into use and the written word was re-emerging in the Hellenic culture; the Homeric text became set and immutable, as seems likely (although tinkered with by editors for centuries), in mid sixth-century Athens.[5] The canonical texts that have so luckily survived, then, come to us with their unique oral characteristics, and thus when we sing them, especially from memory, the effect of the process of spinning out a story, of thinking about what comes next and how it will be expressed, is a palpable part of our performance experience.

The 34-line passage from the Iliad that follows--Book 18, lines 428-61--illustrates most of the typical features of the Homeric style, and is intended for performance as well as study. It is a part of a speech by the goddess Thetis,[6] the mother of Achilles, appealing to the weapon-smith Hephaestus to make new armor and a new shield for her son to replace those with which he sent his companion Patroclus into a skirmish with the Trojans, in which Patroclus was killed and Achilles's gear taken. The present lines tell from Thetis's vantage-point "the story so far," and her urgent request is a critical moment in the Iliad's

final action.

The example begins with the melodizing of the text in staff-notation, with transliteration, and includes an instrumental anabolē (prelude), articulatory extensions, and close. From line 436 the melody is presented in alphabetic notation, and thereafter most or all of the melodic decisions--which, if the rules are followed, are quite restricted--are left to the student; from 436 the rhythm will also have to be determined from the text. After 441 there is no transliteration, though the English translation--word-for-word and literal to the extent possible, as will be my practice throughout these pages--continues.

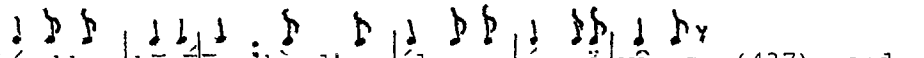
Following the example is a detailed commentary on the prosody of the individual lines, and specific advice to the singer.

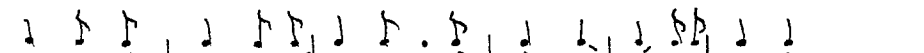
Dactylic hexameter verse runs in effect on two levels with two sources of energy: there is the underlying framework and momentum of the meter's ongoing pulsation. We call this meter dactylic, but in fact 40% or more of the feet are not dactylic but spondaic, long-long (and in Latin epic verse about half). A steady beat is necessary for the irresistible forward movement of the words and the story as they are sung: the linear narrative against the cyclic hexameter.[7]

The regular rhythmic pulse of the meter, however, is to a considerable extent subliminal: what we attend to is the surface layer of words with their ever-changing rhythmic patterns that both imply the underlying meter and are held in check by it, coming into explicit agreement in the cadential figure  that ends most lines.[8] (It is worth adding here that the effect of the hexameter verse is undoubtedly more powerful when sung than in spoken recitation, and--as I think experiment will confirm--its force doesn't really take hold until some threshold is crossed, some minimum number of lines that seems necessary before one finds oneself carried along with their momentum.)

Poets and bards alike recognized instinctively that the articulation of words in the line and their consequent rhythmic effect required particular care. If word-ends regularly coincide with the divisions of the feet, the effect is clunky. In the hexameter line, word-breaks are most often placed at three points: two principal breaks called caesuras (Lat., "cutting") occur after the first

syllable of the third foot, and after the second syllable of that foot, if it is a dactyl. There is often a sense-break at these points, as can be seen in the following lines from the passage below that show these two caesura positions:





(the caesura is indicated by a vertical dotted line).

The third important word-break--apart from line-end, which is naturally the point at which word- and sense-break most often occur--comes two feet before line-end; the technical term for this break is bucolic diaeresis (also spelled dieresis, accent on the second syllable, from Gr. "division" and a supposed association with bucolic poetry; the word diaeresis is used in analysis rather than caesura for a break that coincides with foot-division). It marks a frequent "cadence formula" in the hexameter line; prominent examples in our passage below include 435, álla dé moi nûn; 446, autàr Akhaioús; 447, oudè thúrasde; 454, ei mḕ Apóllō̄n; and unpunctuated in the rest of the lines, in fact, except 436 (te goes with genésthaí), 440, 441, 443, 445, 448, 453 and 459.

Caesura and diaeresis are particularly significant in formal metrical analysis. They are mentioned here as an aid in feeling the verbal structure of the line; in performance, however,they are events that simply occur as the line is sung, no special notice being given to them.

It is also useful to consider word-phrases as they go against as well as with the metrical grain. For example, in 431 there are three phrases: hóss' emoì ek pāsḗō̄n (♩♫♪♩♪), five longs; Kronídēs Zeùs (♫♩♩), three longs; and álge' édō̄ke (♩♫♩♩), the cadential figure of four longs. The following line (432) is (2 + 6) + 4; the next two (433-4) divide in the middle (with a short "upbeat" to the second half of each); and I group 435 as 8 + 4.

Not all Greek words will fit into the hexameter line; the most famous misfit is probably athánatos ("immortal"), a word of four short syllables, which was altered metri gratia ("for the meter's sake") to āthánatos, as it remains throughout

ancient Greek music.[9]

Similar lengthenings are quite frequent in Homer, whether of a vowel (eis for es, Oúlumpos for Ólumpos, etc.) or consonant (hóssa for hósa in 431, for example; cf. also 435 and 455 below). Digamma (Ϝ), often implied, though it did not survive in written Homeric texts, can be restored where it was no doubt sounded; at the beginning of a word it can lengthen the preceding syllable (e.g., phutòn wòs, 438). "Movable nu," an optional terminal n that could be added to some word-forms ending in a vowel, can be used to make a long syllable (Odyssey 3.373, thaúmasden d' ho geraiós... ("and the old man was amazed") for thaúmasde (there is no example of this lengthening in our selection). Some of these adjustments of duration continue to be used in later compositions.

(The question of a syllable's length when a short vowel is followed by a consonantal stop plus a liquid--tr, kl, etc. (see above, chapter 2, p.17 with n.3)--will mercifully be left until a later stage, as all such combinations in the passage below make a long syllable, as is most often--but not always--the case in Homer.)

The shortening of longs is much more common in epic verse than the lengthening of shorts. In elision, a vowel (sometimes even a diphthong) before a word beginning with a vowel or diphthong--and consequently an entire syllable--is simply left out (the meaning of "elision," from Lat. elidere, "to strike out"); the omission is represented by an apostrophe.

Correption is the reduction, as may be metrically necessary, from long to short of a vowel or diphthong before another vowel or diphthong; there are fifteen such in our passage below; the shortened syllable can be either the first or second short syllable of a pair (435 or 440, for example).[10]

The collision of vowels at the end of one word and the beginning of the next is called hiatus (Lat., "yawning," "gaping"). Many Greek words have internal successions of vowels, but such effects between words violated the Greek ideal of euphony ("fine sound"), perhaps in part because they obscured the boundaries of separate words. The digamma eliminates a good many cases of hiatus in the written

text. (For this and other reasons I restore digamma as consistently as I can in performing Homer; a list of digamma words is given at the end of this chapter.) The movable nu was used by bards and composers where possible to prevent hiatus: for example, the n of weîsin in line 430 below, or of éphthien in 446.

Elision is perhaps the most common device for avoiding hiatus. In some situations, however, the solution required slurring the vowels together in a kind of diphthong (or polyphthong), as happens frequently in Italian and Spanish poetry, for example, an effect for which modern linguists commonly use the (ancient Greek) term synalepha ("smearing together"). It is the only kind of vowel collision in Greek that can be awkward to enunciate (see examples in lines 431 and 458 below).[11]

(Note that elision, hiatus and correption are unaffected by the aspiration of an initial vowel: a vowel is simply a vowel, though a rough breathing following an elision can effect an "exposed" consonant, as in thṓrēk(h)'; hà, line 460. The transliteration confuses this somewhat by representing the rough breathing with initial h; this letter never counts as a consonant (cf. 442, kaì hórâi; 455, ál-kímon huión).)

Most often in Homer a single line contains a complete thought, and the breath at the end of such a line is a natural and necessary articulation. Not infrequently a thought additional (but not necessary) to that line will begin the next line: for example, Aiakídēi Pēlêï in 433, which identifies more clearly the "man" (andrì) of the preceding line (and is in apposition, in the dative case); or éxokhon hērṓōn of 437, parallel to the accusative huiòn ("son") of 436.

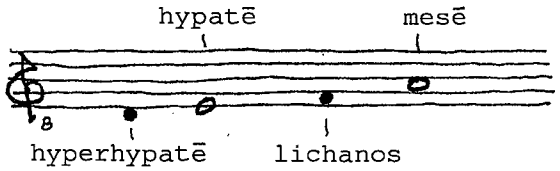
But there are many cases, too, of what is called enjambment (also called "run-on"), where the sense or syntax of a line, or both, are completed only in the following line, without a noticeable sense-break at line-end.[12] In such cases it is best to breathe not at line-end but at the point of a clear articulation or punctuation. There are several somewhat different examples of enjambment in our study passage below: in 439-40 the future participle of purpose makhēsómenon depends on the sense of the main verb "sent off," epiprohéēka; the clause that follows goes over the line-end to 441, and I would argue that these successive enjambments create a somewhat elevated sense of anxiety that is not inappropriate

Thetis's supplication.[13] Somewhat different is the phrase "elders of the Argives" (448-9, gérontes | Argeíōn), which can hardly be interrupted by a breath.

Every enjambment seems in practice to be unique: as another example, sense and syntax clearly continue through the end of line 434 ("he..") to 435 ("lies in his great hall"), but here a quick breath after lugrôi, if necessary, need not disrupt the required continuity. (The sign ✓ is used to indicate a breath.)

The opposite of enjambment is the rhetorical or structural break, which interrupts the verbal text with an instrumental extension of appropriate length--without, of course, disturbing the rhythmic momentum. I use generally a two-dactyl break as "quotation marks" to set off direct speech, or for rhetorical articulation, as in lines 428, 441 and 456 of the passage below. These instrumental "tags" allow a moment of breath for performer, story and listeners alike.[14]

Homer accompanied himself on a four-string, lyre-like instrument he regularly referred to as a phorminx.[15] We don't know for certain how it was tuned, but we can make a fair guess. I assume that the singer sang only the four pitches of his instrument's strings, and that voice and instrument always moved together at the unison or octave. The string's pitches, I believe, belong to the ancient enharmonic harmonia (mode), also known in music of many cultures as the major-third pentatonic scale,



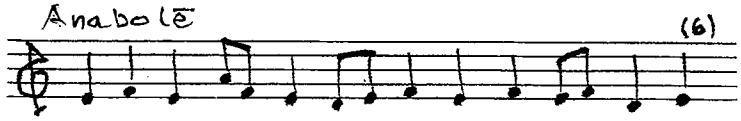
and, specifically, to the trichord above, from hypatē to mesē, along with the note a whole tone below the tonic (hypatē), to which the Greeks gave the practical name hyperhypatē ("[the string] beyond hypatē")--the conventional pitches and names here are shown in place on the chart of the Greek gamut in the following chapter.

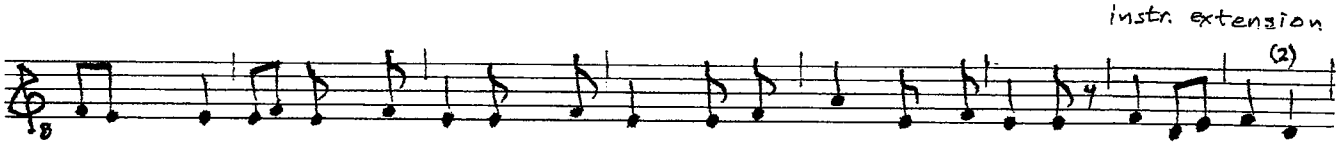
(This may seem an unduly restricted musical resource. "In traditional epics," however, "it is the story which is primary, but musical performance elevates the

public style of vocal delivery epic such that it attains a power unmatched by language alone. In purely musical terms the 'melody' might be perceived as banal or repetitive, but it is a powerful framing device by which the heroic tale attains heightened artistic communication."[16])

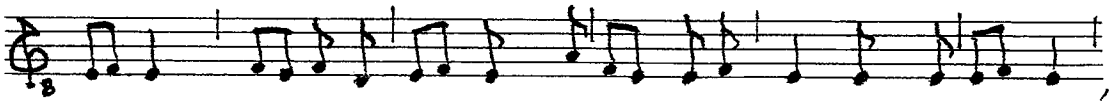
For many reasons an accompanying instrument is indispensable: the simple accompaniment here (which follows Plato's description of the schoolboy's musical practice[17]) gives support and occasional respite to the singer, while imparting both depth and breadth to the performance. In the absence of a Homeric lyre, one can sing quite well with a small harp, zither, hammer dulcimer, autoharp, or even guitar (using four strings: the open major third, plus two stopped to give the remaining pitches). A practical and beautiful instrument for singing epic poetry, I have found, is the African mbira (sometimes mis-called the "thumb piano"), which is especially useful if one enjoys singing while walking. The tuning of the intervals is nominally that of the Pythagorean scale, given below in "Tuning Methods," Chapter 5, p.61-3. For our purposes at the present stage, however, the standard equal-temperament intervals are a satisfactory approximation to the Pythagorean.

As to the question of the performance tempo: familiarization with the text and its musical elaboration will probably result in the settling of a comfortable pace or tempo of delivery. For me the right pace is about 65 seconds for ten lines (without instrumental tags), or about 108-112 long syllables per minute. Two longs per second (120 on the metronome) is probably a bit too fast: the performance should move ahead without ever feeling rushed. It may be worth adding that singing a lengthy succession of hexameters is not made easier by speeding up the pace--quite the contrary.

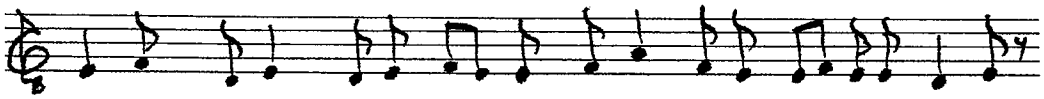




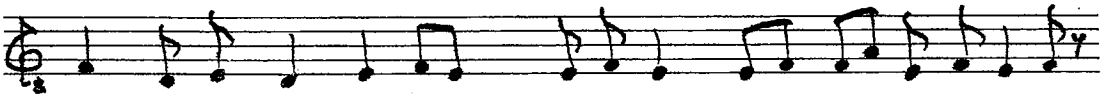
τὸν δ' ἠμείβετ' ἔπειτα Θέτις κατὰ δάκρυ χέουσα·
tòn d' ēmeí-bet' épei-ta Thé-tis katà dákru khéou-sa:
To him replied then Thetis, a tear letting fall:



"Ἥφαιστ', ἦ ἆρα δή τις, ὅσαι θεαὶ εἰς' ἐν Ὀλύμπῳ,
"Hēphaist', ê á-ra dē tis, hósai theaí eis' en Olúm-pōi,
"Hephaestus, is there anyone, among all the goddesses on Olympus, who

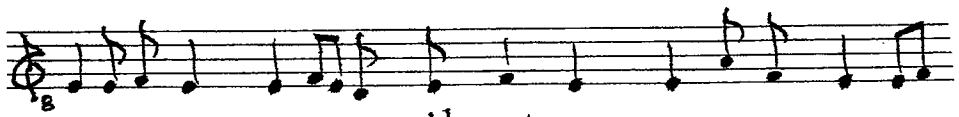


τοσσάδ' ἐνὶ φρεσὶ Fῆισιν ἀνέσχετο κήδεα λυγρά,
tossád' enì phre-sì wēisin an- éskheto kē-dea lugrá,
so much in her heart has endured of sorrow dismal,

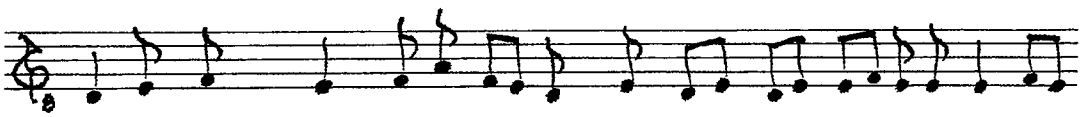


ὅσσ' ἐμοὶ ἐκ πασέων Κρονίδης Ζεὺς ἄλγε' ἔδωκε;
hóss' emoì ek pāsé-ōn Kroní-dēs Sdeùs álge' édō-ke?
as to me, above all the others, Cronus's son Zeus pain has given?

ἐκ μέν μ' ἀλλάων ἁλιάων ἀνδρὶ δάμασσε,
ek mém m' allā-ōn ha-liā-ōn an-drì dámas-se,
Me, of all the rest of the sea-goddesses, to a mortal man he gave,



Αἰακίδῃ Πηλῆϊ, καὶ ἔτλην ἀν(ν)έρος εὐνήν
Aia-kídēi Pē-lêï kaì étlēn an(n)éros eunḗn
Aeacus's son Peleus, and I have endured mortal marriage,



πολλὰ μάλ' οὐκ ἐθέλουσα· ὃ μὲν δὴ γήραϊ λυγρῷι (v)....
pollà mál' ouk ethélou-sa; hò mèn dḕ gēraï lugrôi
very much against my will. And he by old age's misery

...κεῖται ἐνὶ (μ)μεγάροις ἀρημένος, ἄλλα δέ μοι νῦν· 435
keî-tai enì (m)megá-rois ā-rēmé-nos, ál-la dé moi nûn;
lies in his great hall overcome. But back to me now:

d e e ef e af e e f ef e e f e e
υἱὸν ἐπεί μοι δῶκε γενέσθαί τε τραφέμεν τε
huiòn epeí moi dô-ke genésthaí te traphé-men te
my son--since I was given him to bear and raise to be

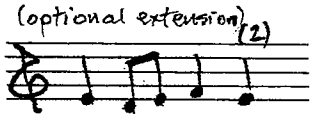
e ef d fa fe
ἔξοχον ἡρώων, ὃ δ' ἀνέδραμεν ἔρνεϊ ἶσος,
éx-okhon hē-rō-ōn, hò d' an-édra-men ér-neï ī-sos,
outstanding among heroes, and he shot up young-tree-like,

fd e e a f e fe
τὸν μὲν ἐγὼ θρέψασα φυτὸν Ὡς γουνῶι ἀλωῆς
tòn mèn egṑ thrépsāsa phutòn wōs gou- nôi alō-ês
him I nurtured like a tree on the hill of the orchard,

fa fe or ef a f
νηυσὶν ἐπιπροέηκα κορωνίσι Ἴλιον εἴσω
nēu- sìn epi-prohé-ēka ko-rō-nísi wīli-on eísō
and in the curved ships sent him off to Ilium

e f a
Τρωσὶ μαχησόμενον· τὸν δ' οὐχ ὑποδέξομαι αὖτις 440
Trōsì makhēsómenon; tòn d' ouk hupodé-xo-mai aû-tis
the Trojans to fight; and him shall I not receive again

a fe
Φοίκαδε νοστήσαντα δόμον Πηλήϊον εἴσω.
woí́ka-de nostḗ-santa dómom Pē-lḗ-ïon eísō.
home to his land and the house of Peleus.



ef d e e fe a f e
Ὄφρα δέ μοι ζώει καὶ ὁρᾶι φάος ἠελίοιο,
But while he lives and looks on the light of the sun

a f e
ἄχνυται, οὐδέ τί Φοι δύναμαι χραισμῆσαι ἰοῦσα·
he is troubled, nor at all to him can I be of help, even if I go (to him).

afe
κούρην, ἣν ἄρα Φοι γέρας ἐξέλον υἷες Ἀχαιῶν,
The girl who for him as an honor-gift was chosen by the sons of the Achaeans,

de f e a or fa fe
τὴν ἀψ ἐκ χειρῶν εἵλετο κρείων Ἀγαμέμνων· 445
she back from his hands was taken by strong Agamemnon.

ef d e μ a fe d e d d de
ἤτοι ὃ τῆς ἀχέων φρένας ἔφθιεν, αὐτὰρ Ἀχαιούς (v) ....
And for her his pained heart has been wasting away, while the Achaeans

...Τρῶες ἐπὶ πρύμνησιν ἐΓείλιον, οὐδὲ θύραζε (v) ....
by the Trojans against their ships' sterns are held, nor forth

...εἴων ἐξιέναι· τὸν δὲ λιλίσκοντο γέροντες
do they allow them to come; he was entreated by the Argive elders,

e f af
Ἀργείων, καὶ πολλὰ περικλυτὰ δῶρ' ὀνόμαζον·
and many wonderful gifts (for him) they named.

d e e f e fa f e
ἔνθ' αὐτὸς μὲν ἔπειτ' ἠναίνετο λοιγὸν ἀμῦναι, 450
But he then refused against disaster to aid (them);

d e fe e f fa fe

αὐτὰρ ὁ Πάτροκλον περὶ μὲν τὰ Fὰ τεύχεα Fέσσε,
nevertheless on Patroclus his own armor he put,

e f a f e

πέμπε δέ μιν πόλεμόνδε, πολὺν δ' ἅμα λαὸν ὄπασσε.
and sent him into battle, and many with him were the men he provided.

af or fa

πᾶν δ' ἦμαρ μάρναντο περὶ Σκαιῇσι πύλῃσι·
All day they fought at the Scaean Gates,

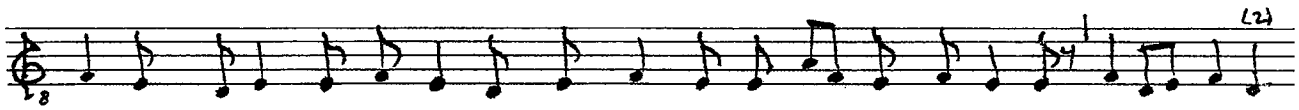
a f e

καί νύ κεν αὐτῆμαρ πόλιν ἔπραθον, εἰ μὴ Ἀπόλλων
and on that day the city they would have ravaged, had not Apollo

fa f e e fe

πολλὰ κακὰ ῥέξαντα Μενοιτίου ἄλκιμον υἱόν 455
him who had wrought havoc, Menoetius's fighting son (Patroclus),

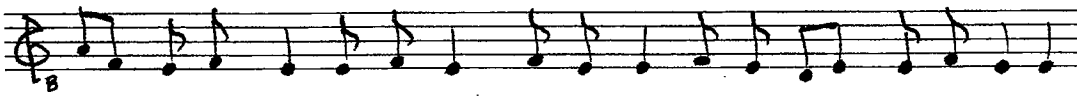
(optional extension)



ἕκταν' ἐνὶ προμάχοισι καὶ Ἕκτορι κῦδος ἔδωκε.
killed in the front ranks, and to Hector the glory given.

ef e fa f e

τούνεκα νῦν τὰ σὰ γούνατ' ἱκάνομαι, αἴ κ' ἐθέλῃσθα
Therefore now to your knees I come, if you would



υἱεῖ ἐμῷ
υἱεῖ ἐμῷ ὠκυμόρῳ δόμεν ἀσπίδα καὶ τρυφάλειαν
for my son, whose life will be short, give a shield and helmet

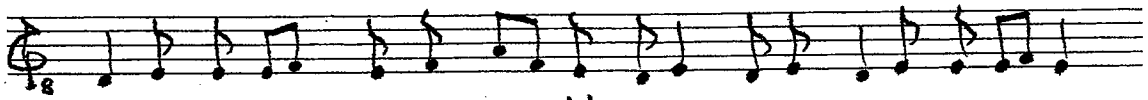
de de

καὶ κνημῖδας ἐπισφυρίοις ἀραρυίας(v)
and beautiful greaves with ankle-clasps fitted,

de ef d e fa f e

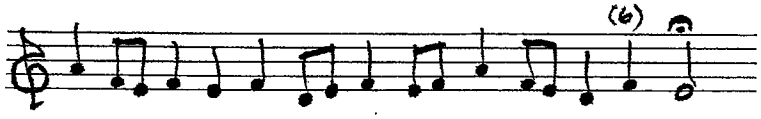
καὶ θώρηχ'· ἀ γὰρ ἦν Fοι, ἀπώλεσε πιστὸς ἑταῖρος (v) 460

and a breastplate; for what was his was lost when his faithful companion was



....Τρωσὶ δαμείς· ὁ δὲ κεῖται ἐπὶ χθονὶ θῡμὸν ἀχεύων."

by the Trojans killed; and (my son) lies on the ground, heart grieved."



PERFORMANCE NOTES

Continuity

Throughout this passage the word-rhythms seem on the whole concordant with the dactylic rhythm; the most conspicuous dislocations, to my ear, are in lines 431, 436, 442, 443, 453 and 454. Enjambment, whether required or recommended, is explained in the following notes, as well as the taking of a breath other than at line-end. (One hardly needs reminding that the hexameter line is long, and that breath is the fundamental performance requirement.) The instrumental extensions, anabolai and closes I improvise in pairs of dactyls, with the number of dactyls shown here in parentheses. (As noted above, ✔ is the sign for a breath.)

Local Effects

There are typical examples here of both correption and syllable-lengthening. As mentioned previously, I restore digammas as accurately as I can; these eliminate many cases of hiatus. Movable nu, as explained above, is provided by the poet within a line for this purpose (the n of wêisin, line 430, for example). At line-end, a breath eliminates hiatus, in my experience; movable nu is unfortunately not available as a remedy for the troublesome hiatus at the end of 447 (not an exceptional difficulty in Homer).

Elision naturally takes care of itself; the notes below give the unelided forms (δ'/(d') is always δέ/δὲ (dé/dè)). There are two instructive examples of synalepha (431 and 458). Other features are mentioned as they occur, including the interrogative accent (431) and internal rough breathing (439, 444).

• • •

line 428 The pitch of the oxytone is generally lower than that of the accent of the following word; if dá- is sung on the highest pitch a, katà can be raised also, to e-f. Elided word: ēmeíbeto.

429 Correption: theaí. Elided: Hḗphaiste, eisí.

430 Oxytones retain the acute accent by convention before a punctuation, or at line-end. Here, performing as lugrà (d-e) leads better to the hóss' that follows. (In modern editions, much of the punctuation--commas especially--is editorial.) Elided: tóssade.

431: d on ek-: I use d here and there in place of e, for melodic variety.

Correption: emoì; synalepha: pāseō̄n (see above), where e and ō̄ are sung as a diphthong, in the time of a long. A question can, I think, have a rising "interrogative" accent on its final syllable; such treatment is, however, speculative and optional. Pitches on Sdeùs: see note on 428. Elided: hóssa, álgea.

432 Elided: me. d on haliāō̄n: see note on preceding line.

433 Pēlêï: the dieresis on i indicates that it is sung as a separate syllable. Correption: kaì. áneros is a dactyl, so the first syllable must be doubled in duration, either by lengthening the first vowel, āneros, or--my preference--by doubling the semivowel, ánneros.

434 gēraï: see note on 433. Elided: mála. (See above for enjambment to 435.)

435 Correption: keîtai. To make the necessary long of the second syllable of enì, the following semivowel m of megárois must be lengthened. It is actually written double (μμ-) in several manuscript sources.[18]

436 A convenient shorthand notation for musical pitch is simply the use of the pitch-letter, above the text-syllables beginning with this line, especially to show recommended placement of the sentence-accent pitch (a). (From this point it will be necessary to deduce the rhythm from the text.)

437 Breath recommended as shown; érneï: see note on 433.

438 Correption: gounôi. Pitch drops to d on tòm to prepare mèn.

439 Sentence-accent possible on any acute.[19] Internal rough breathing: epipro-héēka.

440 Breath as indicated. Correption: hupodéxomai. Enjambment recommended to 441.

441 Instrumental extension effective here, but optional. Pēlēïon: see note on 433.

442 Correption: κὰι.

443 Correption: ἀχνυταὶ, χραισμῆσαι.

444 Internal rough breathing: éx-helon. υἷες pronounced hū-yes.

446 Correption: ἦτοι. In enjambment, sing Ἀχαιοὺς.

447 The hiatus here (see above, 31-2) at line-end, between θύρασε and εἴων of 448, is especially awkward, making a desirable enjambment difficult; still, I recommend no breath until after ἐξιέναι, as shown. θύρασε is pronounced thúrasde.

448 λλ is written in some ms. sources (cf. line 435). The phrase γέροντες Ἀργείων should not be broken, in my opinion. This will require a slight lengthening of the s at line-end to make a long syllable.

449 Breath as indicated. The line-ending syllable -ον is long (vowel + semivowel diphthong). Elided: δῶρα.

450 Successive accented syllables can remain at the same pitch (-τὸς μέν). Elided: ἔνθα, ἔπειτα.

454 Correction: μὴ.

455 Doubled ρ needed to lengthen last syllable of κακὰ (see note on 435). Correption: Μενοίτιοῦ. -όν of υἱόν, a semivowel diphthong, needs the figure given.

456 Correction: καὶ. Optional instrumental extension as given. Elided: ἔκτανε.

457 Correption: ἰκάνομαι. Elided: γούνατα, κε.

458 The synalepha here looks more complicated than it is, owing probably to questions about the text. Recommended pronunciation of the first four syllables as given is approximately hū-ye-mō-yō-. (The ω of μῶι is the open ō, but the syllable is short by correption.)

459 ἁρπυίας pronounced approximately a-ra-rū-yās.

460 Breath as indicated; there are in the ancient Greek compositions not a few places where a breath is necessary immediately after an elision. Correption: Fοῖ. Enjambment recommended with following line. Elided: θώρηκα.

461 Breath as shown. Correption: κεῖταἰ.

Instrumental close: normally 6 dactyls for this function. Some suggested variants are given in Supplement C, below.

Each line can be practiced separately at first, but the desired goal is to sing whole sentences and paragraphs as continuous units of expression. When you feel comfortable with the preceding passage, you can choose your own selections from Homer to study, practice and learn; those who do not yet read the Greek alphabet easily will face an initial obstacle, but with an excellent body of material to learn from. Excellent also for singing are the Homeric Hymns and Hesiod, especially his Theogony. Eventually one can become sufficiently practiced to sing this repertoire at sight, looking ahead and anticipating such stylistic idiosyncracies as correption and metrical lengthening, and even supplying the unwritten digamma where necessary.[20]

A brief note might usefully be added here about performance style. Mechanical monotony is obviously to be avoided, but in learning to sing Homer it is also clear that various imperfect stages of development must be passed through. The relentless and mesmerizing momentum of the musical rhythm is an essential element, though a very subtle rhythmic elasticity, I feel quite certain, was the mark of a fine singer, as was the deft use of the accompanying instrument to shape the story with its contribution to the dramatic and rhetorical effect. But again, it is the immediacy of the story itself, conveyed in a clear and fluid Greek, its narrative and its dramatic speeches, that the singer must attend to above all, and that commands the listener's attention.

Finally, a further word (but not the last) about memory. From our beginnings with Homer, and on through later works, the memorization of as much of the words and music as possible is not only helpful, it is probably indispensable to true comprehension--in all senses of the word. But beyond that, it awakens the faculties of Memory--Mnemosynē, Mother of the Muses (Theogony 53ff.)--that were so fundamental to the arts of the ancient Greeks.[21]

Supplement A

A Brief Guide to Syllable Length

1. All syllables with long vowels or diphthongs are long, except that final syllables may be shortened by correption before a word beginning with a vowel or diphthong.

2. All syllables with a short vowel are long if the vowel is followed by two or more consonants or a double consonant (ζ, ξ, ψ)*, not necessarily in the same word. In the Homer passage above, all mute + liquid (semivowel) pairs make long syllables, though they sometimes do not in Homer, and frequently do not in later compositions.

3. η (ē) and ω (ō) are always long, as are diphthongs (with the exception in (1), above). α (ā), ι (ī) and υ (ū) may be long or short; they are long if they have a circumflex accent (ὁρᾶι, 442 above; Fῖcoc, 437; κῦδοc, 456); a lexicon will give the quantity; and there are ways to resolve some cases by observation:

•In the final syllable, a vowel is short if the penult has a circumflex accent (453, ἦμαρ), or the antepenult an acute (434, ἐθέλουcα); if the penult has an acute accent, the ultima is likely to be long (459, ἀραρυίᾱc), if it can be.

•One might not know that the second ā is long in both allā́ōn and haliā́ōn, 432, except that a short a in the former, between two known long syllables, would not fit the meter.

•Knowing that lugrá in 430 is neuter plural (modifying kḗdea) reveals that its -a, like every neuter-plural -a, is short, and so it is sung to a short note.

4. On an accented syllable, it makes a musical difference whether the syllable's vowel is long or short. For example, in korōnísi, 439, the accented i has a short note, while that of wī́lion is sung to an ascending two-note figure. Because the second a of kalwā́s, 459, is long, it is also sung to two notes, unlike, e.g., the neuter singular kalwón: compare the melodic treatment of -on before a vowel--huiòn epeí, 436--and before a consonant--tòm mèn, phutòn wōs, 438.

5. In the case of a difficult line, it may be helpful to begin at its end and work backwards from the usually clear final syllables. The hupodéxomai aûtis of 440, for example, has long syllables -déx- and aû-, so -mai must be short, otherwise -xo- would be an isolated short syllable. One can work similarly from the other

*(z/sd, x, ps)

end of the line. This sort of detective-work becomes much easier with practice, and the skills one develops will prove very useful in later repertoire.

Supplement B

Some Digamma Words[22]

ἄγνυμι break
ἁλῶμαι be caught
ἀνδάνω please
ἄστυ town
ἄναξ lord
ἔαρ spring
ἕδνα wedding gift
ἔθνος tribe
εἶδος form
εἴκοσι twenty
εἶπον said
ἕκαστος each
ἑκών willingly
Ἑλένη Helen
ἔλπομαι/ἐλπίς hope
ἕξ six
ἑο, οἱ, ἑ him
ἔπος word, epic
ἕννυμι clothe
ἔργον, ἔρδω work
ἐρέω will say
ἐρύω drag
ἑσθής clothing
ἑσπερος evening
ἔτος year
ἕτης kinsman

ἡδύς sweet
ἰδεῖν saw
Ἴλιος Ilium (Troy)
ἴς strength
ἶφι by force
οἶδα know
οἶκος house
οἶνος wine
ὅς, ἥ, ὅν his, her, its
ὄχος carriage
ὡς like

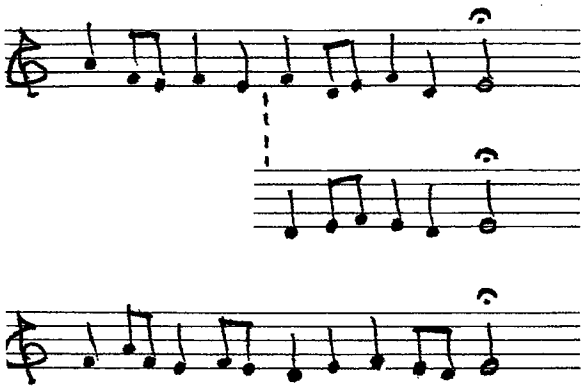
Internal Digamma

αἰϝεί always
Διϝός, Διϝί, Δίϝα Zeus
ϝέϝοικα am like
ϝιϝάχω (ἰάχω) shout
ϝίϝος (ἶσος) equal, same
καλϝός beautiful
κλέϝος glory
κληϝίς key
ξένϝος stranger
ὄϝις sheep

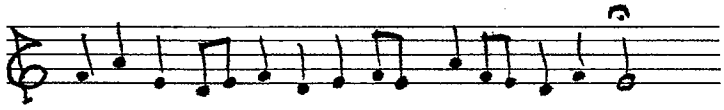
Supplement C

Instrumental Close: Several (of Many Possible) Variants

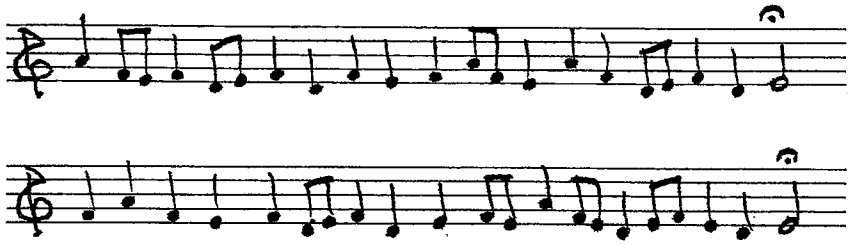
Four Dactyls



Six Dactyls



Eight Dactyls



The Prelude, Extensions and Close can, with familiarity, easily be decided on extemporé in performance. One can also repeat on the instrument the preceding vocal melodic sequence, taking care that this does not become a mechanical expedient.

NOTES (Homer and Epic Song)

1. For example, G. Nagy, Comparative Studies in Greek and Indic Meter (Harvard U. Pr., 1974). A brief account can be found in B. Powell, Homer and the Origin of the Greek Alphabet (Cambridge U. Pr., 1992), 222. Cf. GM, 33ff., IGM, 19ff.

2. Dionysius of Halicarnassus: The dactyl "is very stately and remarkably effective at producing beauty of expression. The heroic line derives its formal beauty for the most part from this" (pánu d' estì semnòs kaì eis tò kállos tês hermēneías axiologótatos, kaì tó ge hērōikòn métron apò toútou kosmeîtai hōs epì tò polú). (DH, 128-9, Usher's translation.)

3. Odyssey 8.43, 488, 480.

4. The Making of Homeric Verse: The Collected Papers of Milman Parry, ed. by A. Parry (Oxford U. Pr., 1987), and The Singer of Tales, by Albert B. Lord (field-researcher with Parry in Yugoslavia), 2nd ed., edited by S. Mitchell and G. Nagy, with audio-video CD (Harvard U. Pr., 2000). OCD_3, "Homer," "Epic," "Orality." AGM, 135-6, 328-9; MMAG, 29-32, 42-52. Also valuable on epic in general is John Miles Foley's "Epic as Genre," The Cambridge Companion to Homer, edited by R. Fowler (Cambridge U. Pr., 2004), 171-87.

5. See especially the last chapter ("Conclusions from Probability: How the Iliad and Odyssey Were Written Down") in Barry Powell's book, note 1 above.

6. About 45% of the Iliad is direct speech; of the Odyssey, about 68%.

7. Sung performance--as opposed to spoken recitation--demands a steady beat. Cf. note 4, chapter 2, above; AGM, 130 with n.4, 135-6.

8. Only about 5% of Homer's lines are "spondaic," i.e., end --|--.

9. Other examples include words with a short syllable between two longs, such as ἀφθόνητος (aphthónētos), "generous"; certain proper names can be problematic.

10. "Internal correption" (within a word) can occur occasionally in epic lines, e.g., toîos eòn hoîos ou ... (Iliad 18.105), where hoî- is shortened before the following vowel.

11. Movable nu (nû ephelkustikón, "attracted n") is used variously by modern editors at line-end. It is usually added to a line-ending vowel, where permitted (the rules can be found in any Greek grammar), before a line that begins with a vowel, to prevent hiatus. As argued above, a breath at line-end eliminates the effect of hiatus, and thus the need for the added n; furthermore, an added semivowel at line-end requires time to perform, time robbed from that which the performer may need for an adequate breath.

In his Iliad edition, M.L. West adds movable nu at line-end wherever it is permitted, including before a following consonant. (In our Iliad passage, these are lines 431-2, 451-3 and 456; in many other editions, lines 431-2 only.) This is at variance with his earlier practice, in his Theogony edition cited above (chapter 2, note 3), where he uses movable nu only before a line that begins with a vowel. (Cf. his note 1, p.vi there: "The general habit of inscriptions and the earliest Homeric papyri is to write nu at line-end in all circumstances." This may or may not inform us about what is best in performance, however.) (Movable nu is pursued further in note 12, below.)

Synalepha (also spelled synaloepha, pronounced sinnaLEEfa) is also called synizesis (sunhízēsis, "falling together"). A general term for the coalescence of vowels is synekphonesis (sunekphṓnēsis, "spoken together"). The confusion of ancient and modern terminology is clarified by West, GM, 191ff.; cf. also VG, Chapter 4 ("Vowel-Junction"), GG, p.18-24. Crasis (krâsis, "blending") is written-out synalepha (GG, p.22-3). See below, p.148, 146-7.

12. The Greek term for enjambment is synapheia (sunhápheia, "connection"). Recommended and optional enjambments in the Iliad passage are indicated by a solid or dotted horizontal ligature.

Milman Parry studied enjambment extensively in his analysis of the structure of Homeric verse ("The Distinctive Character of Enjambement in Homeric Verse" in Parry, above, note 4); his analytic method has been refined, especially by Carolyn Higbie (Measure and Music: Enjambement and Sentence Structure in the Iliad (Oxford: Clarendon Press, 1990)). Our practical approach to enjambment is mainly contextual and less generalized than these formal treatments.

Enjambment is the one situation in performance where the movable nu can be used at line-end to eliminate hiatus. No such situation is present in our Iliad passage (the lack of this expedient at 447-8 has been mentioned), but it does arise on occasion in Homer, for example in the series of enjambments cited in the following note, Iliad 9, lines 337-8: ...Trōessin|Argeíous? (-in makes a long here).

13. Cf. Achilles's anger and impatience in his meeting with Agamamnon's delegation, Iliad 9.330-43, in an extended, quite exceptional series of enjambed lines.

14. The musical equivalent of a rhetorical pause is both desirable and indispensable. I do not recommend such a pause at the end of every line, however, as in the generally elegant performance of Danek and Hagel, at their homer-singen website, with their rationale given there and in Georg Danek, "Homerische Vortragstechnik: Rekonstruktion und modernes Publicum," in Ancient Greek Music in Performance, ed. by S. Hagel and C. Harrauer (Vienna: Verlag der österreichischen Akademie der Wissenschaften, 2005), 166-69), for several reasons: first, the rhetorical effect of enjambment is broken up and rendered ineffective by their regular two-dactyl extension; second, a two-dactyl addition at the end of every line lengthens the actual performance by a third (an additional twenty minutes for the average one-hour performance time, approximately, of one book of Homer, and eight additional hours for a complete Iliad performance), quickly becoming tedious to my ear; third, forward momentum of the story is lost; and finally, if each line has an instrumental extension, it will not be available as a rhetorical device.

The most serious problem, however, is the distortion of the hexameter line, which with the regular interpolation of two instrumental dactyls becomes an eight-unit verse in place of the six units of the epic line, completely altering the macrorhythm of the poetry. (It should be noted that Stephen G. Daitz, in his "On Reading Homer Aloud: To Pause or Not to Pause," American Journal of Philology 112.2 (1991), 149-60, recommends a pause, varying in length, at the end of every line, in spoken recitation. Even here, the regular "stopping and starting" of Daitz's pauses would seem to disturb the forward momentum, turning each line into an isolated artifact.)

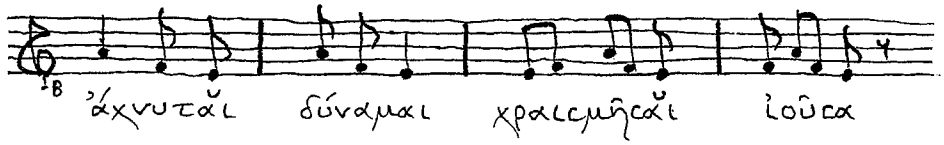
15. Homer calls his accompanying stringed instruments phorminx or kitharis (the latter, along with the name lyre (lúrā), not used by Homer, are thought to be non-Greek words). Cf. AGM, 49-70; GMW 1, 14, 25. The indispensable, comprehensive source here is Stringed Instruments of Ancient Greece, by Martha Maas and Jane M. Snyder (Yale U. Pr., 1989).

16. "Epic, 2" by James Porter, NG_2, 266.

17. Laws 812d; English translation, GMW 1, 162; cf. AGM, 69.

18. Homeri Ilias recensuit ... Martin L. West. Bibliotheca scriptorum graecorum et romanorum teubneriana. Munich and Leipzig: K.G. Saur, 1998-2000.

19. Many lines have several possible alternatives for placement of a sentence-accent, as here, and as suggested for lines 445 and 453. Another such line is 443, where any one of the following is possible:



20. For Homer we have the recently revised Iliad and Odyssey in the Loeb Classical Library series, with prose translation (Harvard U. Pr., 1999 and 1998, respectively). For students of Greek, Allen Rogers Benner's Selections from Homer's Iliad, with its commentary, Homeric grammar and vocabulary (first published in 1903 and re-printed many times), is still to be recommended; D.B. Monro's complete Iliad, with grammar and commentary (Oxford, 1884; later editions and reprints), continues to be a useful resource. There are in the LCL new editions of Hesiod (2 vol., ed. and translated by Glenn W. Most, 2006 and 2007), and of the Homeric Hymns, with additional Homeric material (ed. and translated by M.L. West, 2003), that offer a wealth of material and high standards of presentation.

Benner's encouragement (p.352) is surely not mistaken: "The natural flow of the hexameter, in perfect time, soon becomes a matter of instinct and requires little conscious foresight."

21. On the cultivation of memory in antiquity, see The Art of Memory by Frances A. Yates (1966; reprint, Pimlico, 1992), Chapters 1-2. On Simonides, the Greek composer most closely associated with the skill of memory, and mnemonics, see GL 3, p.350-1, 374ff.

22. The digamma continued to be used, along with an alternative, the vestigial stigma (ϛ), in the alphabetic Greek numeral notation, representing the number six.

In Homer there are quite a few lines where the digamma we expect will not scan. An example is Iliad 7.108,

δεξιτερῆς ἕλε χειρὸς ἔπος τ' ἔφατ' ἐκ τ' ὀνόμαζε

dexiterês héle kheiròs épos t' éphat' ek t' onómasde

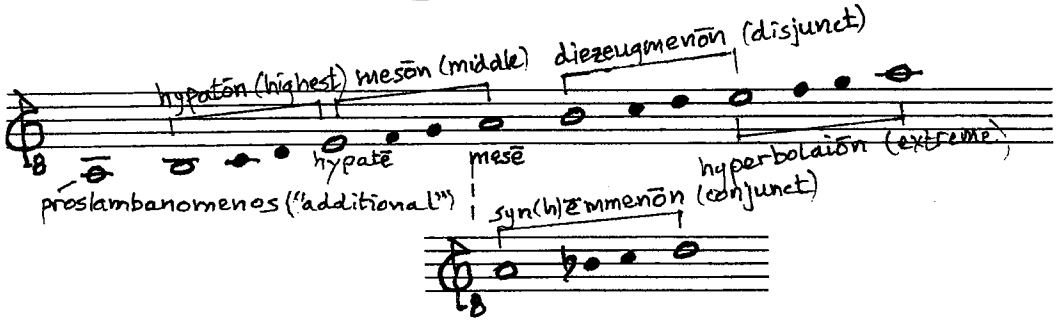
([Agamemnon] took hold of [Menelaus] by the right hand and spoke, calling him by name),

where Ϝέπος (wépos) will not fit the meter.

This inconsistency continues to resist definitive explanation. Parry's studies of the digamma in Homer and later poetry can be found in The Making of Homeric Verse, above, note 4, pp.222ff. and 391ff. See also VG, 47-51 and L.R. Palmer's The Greek Language (1980; repr., University of Oklahoma Press, 1996), p.85-6, 102-3.

FUNDAMENTALS OF THE ANCIENT GREEK PITCH SYSTEM

Over the centuries the Greeks accumulated a large number of technical musical terms. Most of these we can get along without here, but, in referring to the tetrachords and their divisions, the ancient names of the pitches--corresponding originally to the strings of a lyre or kithara--seem still to be the most convenient. The principal structural interval (and principal consonance) of ancient Greek scales and melody is the perfect fourth; the other two consonances, the fifth and octave, are of lesser importance. The diatonic Gamut is notated below; its two octaves on the upper staff comprised the Greater Perfect System; its tetrachords are all conjunct except at the center, where the disjunct pair is separated by the tone of disjunction, a-b. The open notes of the Gamut are "standing" notes (hestōtes), whose pitch is fixed; the open notes are "movable" (kinoumenoi); their pitch varies according to the genus (below) and shade of tuning. The central pitch of the system, from which all other pitches are determined, is mesē, whose conventional modern representation is the pitch a at ca. 220 Hz.

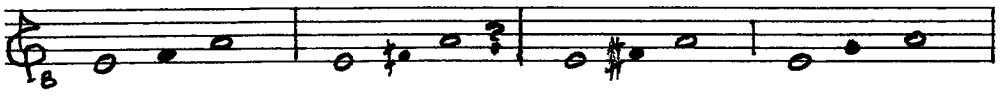


The following are the note-names and conventional pitches in the central range (approximately that of the male voice) of the Greek diatonic gamut, descending:

diezeugmenōn ("disjunct") tetrachord	e'	nētē (neatē)	"lowest"
	d'	paranētē	"next-to-lowest"
	c'	tritē	"third"
	b	paramesē	"next-to-middle"
disjunctive tone			
mesōn ("middle") tetrachord	a	mesē	"middle"
	g	lichanos	"index (licking) finger"
	f	parhypatē	"next-to-highest"
	e	hypatē	"highest"
	d	hyperhypatē	"beyond hypatē"
		(lichanos hypatōn)	("index finger of the highest (tetrachord)")
syn(h)ēmmenon ("conjunct") tetrachord	d'	nētē syn(h)ēmmenon	
	c'	paranētē syn(h)ēmmenon	
	b♭	tritē syn(h)ēmmenon	
	a	mesē	

"Highest" and "lowest" refer to the position of the strings of the lyre as the player holds it: as with the guitar, the lowest-pitch string is uppermost and vice versa. The names of the notes are adjectives modifying the unexpressed noun khordē ("string"); their complete names include that of their tetrachord (e.g., lichanos hypaton). (Proslambanomenos modifies the absent phthongos, "note.")

Trichordal Divisions of the Fourth, Hypatē-Mesē



enharmonic: major-third pentatonic

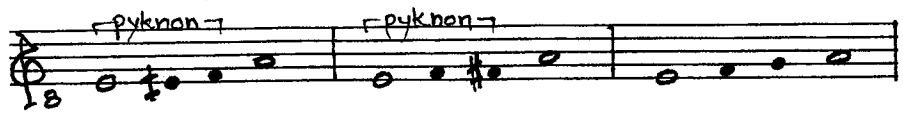
spondeion: midtone pentatonic

(see p. 174)

minor-third (anhemitonic) pentatonic

(The semisharp (♯) raises the pitch by a quarter to a third of a tone.)

The Genera (tetrachord mesōn)(Gk. genos, pl. genē)



enharmonic chromatic diatonic

Pyknon ("compression") is the name for the divided smaller interval in the enharmonic and chromatic tetrachords.

See also the section on Tuning Methods at the end of Chapter 5, and Appendix i on Tuning Procedures.

5. TONAL MATERIALS

Almost all the ancient Greek scales and modes, as they have come down to us, are late and highly systematized. Like the medieval "church modes" (themselves derived from the Greek system), the organized modes (I use the terms mode and harmonia interchangeably) are presented as octave scales cycling through the "natural" notes of the diatonic scale, the Dorian beginning on e, the Phrygian on d, and so on.[1] The church modes tell us virtually nothing about modal melodies of folk music or plainchant. The Greek system of scales is similarly uninformative, and we must turn to earlier sources of information, most of it indirect, though far from insignificant, about the early modes and the nature of melody.[2] The survival of the melodic pitch-accent in the written language, we have already seen, gives us indispensable melodic information.

Melody around the planet can be put into two broad categories of intervallic structure: pentatonic, with five distinct pitches in an octave, and diatonic, with seven; the eighth pitch of the diatonic octave returns us in effect to the starting pitch, and so diatonic scales are actually heptatonic (seven-tone). (The diatonic scale is a quite strictly defined sequence of five whole tones and two semitones, as in our major scale. The word "octave" means "eighth," and so is not strictly applicable to non-heptatonic scales; the Greeks used the better description dia pasōn, "through all [the strings or tones].")

Pentatonic scales are generally of two types: the minor-third or anhemitonic, the world's most widespread scale type, which Lou Harrison calls "the Prime Pentatonic,... practically The Human Song,"[3] characterized by the adjacent intervals of a minor third and a whole tone; and the much less frequently encountered major-third pentatonic scale, the characteristic intervals of which are an adjacent major third (or ditone) and a semitone.

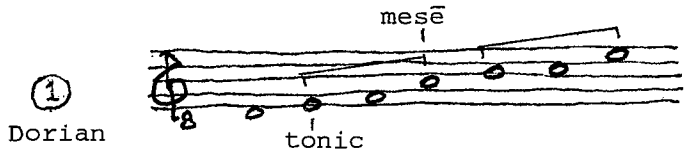
From the time of the ancient Greeks to our own, the pentatonic scales have been too often, and altogether inappropriately, described as "defective," "gapped," "transilient," or "chasmatonic," as if they were primitive and incomplete diatonic scales. The Greeks supposed that pentatonic scales came about from the omission of notes in the diatonic scales, or, conversely, that diatonic scales came from filling gaps in the pentatonic; but all these intervallic structures lack nothing in their perfect musical integrity. So far as we know, pentatonic and

diatonic melodies are equally ancient, and, indeed, older than we can know.[4]

The Greeks gave precedence to the major-third pentatonic scale through their esteem of the Dorian mode over all others, and thus were at the Western extremity of "a very ancient major-third-trichord belt extending across southern Asia," reaching from the Eastern Mediterranean to Indonesia, India, China and Japan.[5] Their traditional name for this scale was enharmonic, and we have experienced its complete intervallic structure in my Homeric lyre tuning of the preceding chapter.

In his immensely valuable treatise, De musica (Peri mousikēs, first century C.E. or later?), Aristides Quintilianus (hereafter AQ) includes a set of modal scales or "harmoniai ... that the divine Plato mentions in the Republic." Sometimes called the Damonian scales, they are given in the (later) enharmonic form with divided semitones, as a sequence of intervals, as well as in the symbols of the two ancient Greek musical notations.[6]

With the quarter tones combined into semitones, we have from AQ the following Dorian scale (using conventional pitches):



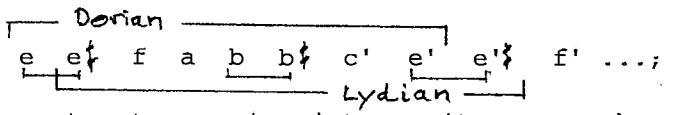
this will be our Dorian harmonia, with e as the tonic.[7]

It consists of two major-third pentatonic trichords, and has, with the inclusion of the lower neighbor-tone hyperhypatē (d), the added symmetry of identical divisions of the fifths d-a and a-e'. The Dorian scale of AQ, when, as here, semitones stand in place of the quarter-tone pairs, spans seven pitches. This is a significant fact, since seven is the number of strings on the lyre that succeded Homer's four-string instrument; as the seventh-century composer Terpander sang, "For you [Apollo?] we shall make new hymns resound on a lyre of seven notes, abandoning our love for the four-voiced [i.e., four-string] song." These seven strings remained a musically satisfactory resource for a good many generations, until their number began to be actively increased, most notoriously by the composer Timotheus, after the mid fifth century, who is supposed to have raised the number to eleven; around that time, the composer Ion of Chios celebrated the "eleven-string

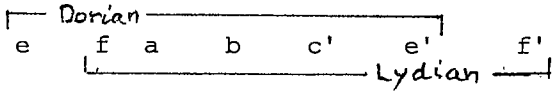
lyre," disparaging its "previous ... seven-toned" condition. Our melodic needs here--recalling more ancient traditions--will require no more than seven strings, in the tunings of the oldest of the harmoniai.[8]

The Dorian mode and scale will be our "master" reference scale (much like the C-major scale in present-day musical practice), a function it served for the Greeks as well. (For the Greek musical terms used here, see the chart on pp.52-3, "Fundamentals of the Ancient Greek Pitch System.")

The ancient Lydian scale given by AQ was obtained by cycling the intervals of the Dorian to the next higher pitch position, where the new scale begins with an isolated quarter tone.[9] How to replace quarter tones with semitones in this unique (and improbable) scale poses a problem to which a solution is evident if we look at AQ's extended enharmonic scale. Using our conventional pitches, this is



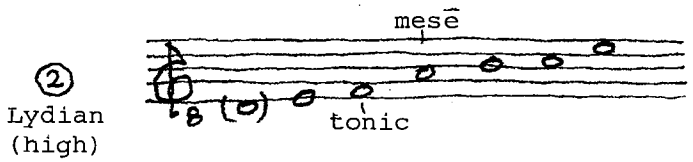
combining the quarter-tone pairs into semitones, we have the scale



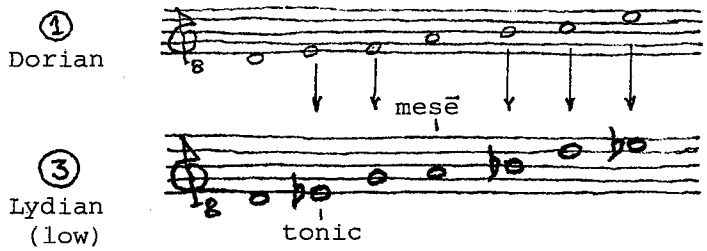
Now the scale with the next higher pitch position above the Dorian occupies the octave f-f', which will be the basis of our Lydian harmonia.

At this point it will be useful to take up several practical considerations of tuning a lyre. I make the assumptions here that (1) the lyre-player, when changing the tuning from one harmonia to another, preferred to retune as few strings as necessary, and these by the smallest required change in pitch (since retuning a string affects its pitch stability, and possibly also the tuning of the entire instrument); and that (2) the pitch of the middle string mesē (a), the reference-pitch for the other six strings, once set, will not be retuned, no matter the changes in tuning from one mode to another.[10]

The Dorian tuning, (1) above, gives us an almost complete Lydian scale with no retuning at all;



By retuning five of the seven strings from the Dorian tuning, however, a more satisfactory, complete Lydian octave is obtained:



here the two es and the b are lowered a semitone, to e♭ and b♭; f and c' are raised a tone to g and d'.[11]

Two Lydian modes are mentioned by our ancient informants. Plato refers to the Lydian as "slack" (khalara), one of the "soft and convivial" harmoniai (malakaí te kaì sumpotikaí), but he also mentions a tense Lydian mode, the Syntonolydian, one of AQ's ancient scales. The second of the two proposed Lydian modes above, as one can see, is a tone lower than the first, and thus is certainly the more relaxed for the singer. It is the tuning I use in my realization of Pindar's Fourth Nemean Ode (in the appendix below), where the resonance of the lower pitch seems concordant with the composer's exhortation to "weave out sweetly now, lyre, in Lydian mode, this song beloved of Oenone and Cyprus" (44-46).[12]

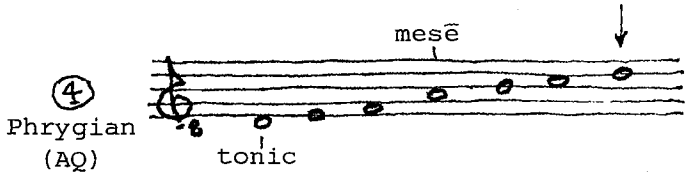
Most of our ancient informants also agree that the three principal modes of antiquity were the Dorian, Lydian and Phrygian. (The Mixolydian, too, was regarded as significant owing to its association with Sappho and, later, with tragedy; an experimental Mixolydian is used in a realization of a composition by Sappho, in an Appendix, below.[13]) Two of these modes, the Lydian and Phrygian, have non-Greek names, and all three are connected with the semi-legendary musician Olympus, a composer and player of the twin double-reed pipe, the aulos, and himself a Phrygian who lived sometime around 700 BCE.[14]

The Greeks had a gift (in which they seem to have had some pride) for naturalizing materials borrowed from neighboring, non-Greek ("barbarian") cultures:

music, the ubiquitous aulos, and the lyre family--kithara, phorminx, barbitos, lura. This type of plucked string instrument may well have been invented in Mesopotamia; it spread through the Near East and Northeast Africa. The Greeks gave credit for the aulos to the Phrygians, a tribe living in a large area of the north-central Turkey of today.[15]

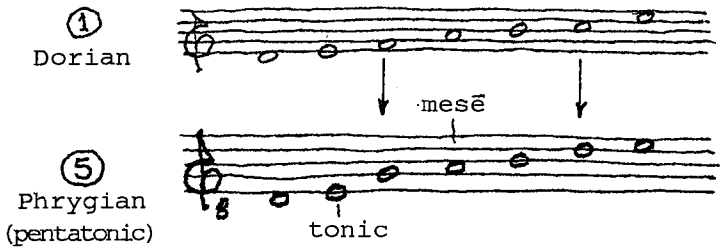
The nature of the Phrygian harmonia is not only a subject of ancient disagreement, it is more elusive today than that of either the Dorian or Lydian. Was its effect ecstatic? frenzied? or solemn and dignified? These famous arguments about the Phrygian mode will not help us much in deciding on a modal scale, since it was not the scale itself but the musical compositions with which it was associated that created its character or ethos, and none of these seem to have survived.[16]

An easy solution to the problem is given by AQ's Phrygian scale,



where the tonic is d; it requires but one string to be retuned from the Dorian tuning, e' down a tone to d'.

But this is the enharmonic form of the Phrygian mode, as shown by the semitone-ditone sequence.[17] Nevertheless, the scale contains an important clue in its upper tetrachord, a diatonic sequence not present in AQ's Dorian and Lydian, here a-b-c'-d'. My own preferred Phrygian mode is radical, strongly influenced by a statement in Aristotle's Politics comparing basic forms of government to basic types of modal scales: the philosopher "speaks of a theory which some hold. According to this, there are properly speaking only two modes, Dorian and Phrygian; all the others are composite rearrangements" (i.e., recyclings of a standard scale). The Dorian would of course be the major-third pentatonic (enharmonic), its scale cycled into the Lydian, as we saw. For the most ancient Phrygian I take the other of the two fundamental pentatonic scales, the minor-third pentatonic, which, as is clear, can be gotten from the Dorian tuning by changing the pitch of two strings:



f and c' are raised a tone to g and d'; e is the tonic.[18]

The fabled composer Terpander, mentioned above as praising the increase from four to seven of the standard complement of lyre-strings, is said to have expanded the range of the seven strings to a full octave. The assumed earlier tuning would have had the range of a seventh, its diatonic scale consisting of two conjunct fourths, e-f-g-a and a-b♭-c'-d'. Terpander reputedly eliminated the third note from the top, tritē (our b♭) in favor of nētē (e'); as a result, the formerly heptatonic tuning became, with the octave repetition of e, hexatonic. This scale was most likely

and was identical, or nearly so, to the somewhat later lyre tuning attributed to Philolaus, an influential Pythagorean philosopher and contemporary of Socrates.[19]

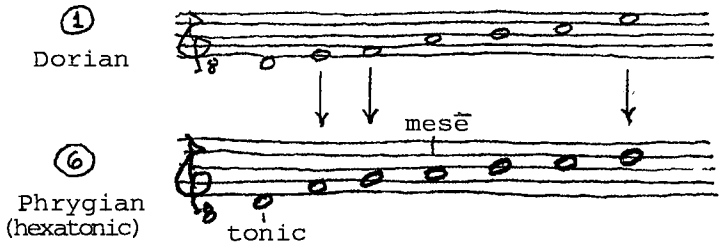
These scales offer us information helpful in drawing some fairly secure practical information about the earliest harmoniai. The first is that the interval of the minor third (in several different intonational shades) was fundamental to Greek mode and melody. Its quite certain appearance in the venerable scales just mentioned reflects the division of the fourth into a tone plus a minor third in the chromatic genus. (See the "Fundamentals" chart, above.)

The second is that a seven-string tuning can (and in certain cases must) pair two perfect fourths that are subdivided differently. The ancient Dorian mode has two intervallically identical trichords. AQ's Phrygian, and the hexatonic tunings of Terpander and Philolaus, however, consist of a diatonic tetrachord and a trichord that is part of a pentatonic scale. (Scales with such non-identical

fourths are mentioned by later theorists, most notably Aristoxenus and Ptolemy.)[20]

We have seen the fourth divided in three fundamentally different ways: as a semitone and ditone; as a tone and a minor third; and as a semitone and two tones. These divisions belong to the major-third and minor-third pentatonic scales and the diatonic scale, respectively; more significantly for the ancient Greek tonal system, they are, in the same order, the intervallic structures of the Greek genē (genera), the enharmonic, chromatic and diatonic.

To return to my Phrygian hypothesis: the proposed scale (5) is what I consider a possible earlier form, the purely pentatonic mode given above. The accumulated evidence seems to suggest a perhaps later Phrygian, a hexatonic mode of the mixed type just described. My preferred choice for such a Phrygian-mode lyre tuning is, then, as follows,



where three strings have to be retuned from the Dorian (e to f, f to g, e' to d'); the tonic is d.[21]

The Spondeion Mode

Brief mention must be made here of yet another harmonia attributed to Olympus, the spondeion or "libation" mode. Similar to the Dorian in its trichordal structure, this mode included the interval of a three-quarter tone (midtone), either as its highest melodic interval,

e f a b c'♯,

or in the lower trichord as well,

e f♯ a b c'♯ ;

e can be presumed to be the tonic.[22]

The division of a fourth into a midtone and a neutral or mid third occurs in Aristoxenus's hemiolic chromatic tuning of 3/8 + 3/8 (=3/4) + 1-3/4 tones (75 + 75 (= 150) + 350 cents); the midtone also occurs in the chromatic tetrachord of Archytas and the tense chromatic and equable diatonic tetrachords of Ptolemy. Clearly the midtone was not a melodic interval unfamiliar to the ancient Greeks. It has long been a prominent (and highly expressive) melodic interval--and remains so today--in Arab folk and classical music of North Africa and the Near East, and occurs in traditional Turkish music.[23]

Tuning Methods

The basic interval sequence for tuning by ear all the modal scales consists of a chain of pure fourths (ratio 4:3) and fifths (3:2), that is, what is generally called "Pythagorean" tuning.[24]

Mesē is the fixed point of departure (like a surveyor's benchmark) for all tunings; as already mentioned, evidence strongly indicates that the lyre's mesē pitch would have been kept unaltered from one tuning to another; it seems to have been the starting pitch for any tuning, as it is here.[25]

The pentatonic Phrygian ⑤ can be tuned as a chain of fourths/fifths: beginning with a nominal mesē of a, we tune up a pure fifth to e', down a pure fourth to b, and then continue with the same intervals the sequence a-d'-g, concluding with the e'-e and d'-d octaves. (As noted above, equal-temperament 4ths/5ths give fairly good approximations to their pure, beatless (Pythagorean) counterparts, but the

differences, small though they may be, are nonetheless dramatic.)[26]

A problem arises in tunings where one or more pitches in the chain of fourths and fifths is not present in the tuning. Our most inconvenient example here, it seems, is the Dorian mode ①, whose pitches, laid out in a chain of fifths, are

f - c - - d - a - e - b.

The gap in this chain would be filled by the note g, which is absent from the scale. (There is also a gap in the fifths-chain in the hexatonic Phrygian ⑥:

f - c - g - d - a - - b,

where the b looks stranded, but in coming from the Dorian tuning, for example, the pitch b is is obviously already present.)

There are several possible solutions to this problem:

(1) Retuning: for the Dorian harmonia, the f string can be temporarily tuned as a g (to the d string); from there c' can be tuned, to which the g can be tuned down to f. This requires time and effort, and such retuning is likely to affect the pitch stability of a string.

(2) Use a different tuning interval: The Greeks used the pure major third (ratio 5:4) in a number of their different scale tunings, the most important of which is Archytas's enharmonic tetrachord, from mesē down to hypatē, 5:4, 36:35, 28:27. (This tuning includes intervals based not only on 5 but on 7 as well, which will be taken up momentarily.) With the added resource of the pure major third, the Dorian tuning proceeds from mesē with the fourths/fifths a-d and a-e-b; then f is tuned below a as a pure, beatless major third, 5:4; then f-c' as a pure fifth, and the e-e' octave. This tuning of the Dorian has an entirely different musical affect from the Pythagorean; its ditone (major 3rd) is much narrower and sweeter, and its semitones are noticeably wider. Aristoxenus famously disliked the sound of this tuning (or perhaps its cultural associations), though he makes it clear that it was used and enjoyed.[27]

It is also possible to use the Archytan diesis (semitone) 28:27 and its companion interval, the very wide ditone 9:7, in tuning the Dorian, though I find these intervals make too austere a pentatonic mode for most music. To get the e-f

interval as 28:27, tune d to a, then f to d as the septimal minor third 7:6, an interval that takes some patience to find, and time to learn to tune accurately; it was an interval the Greeks themselves had to be able to set correctly in order to tune a number of different tetrachords, including the three of Archytas.[28]

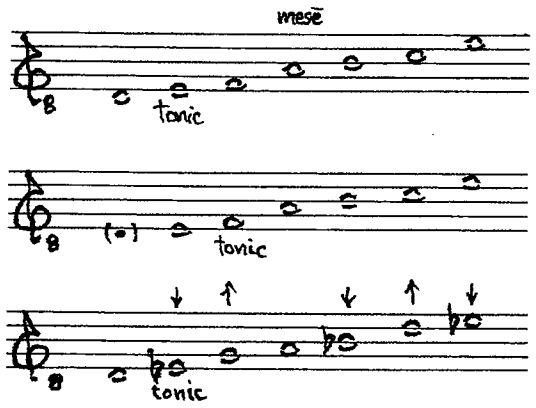
(3) Wing it: The most experienced musicians would have learned to remember and reproduce accurately by ear the ditone and semitone intervals of Pythagorean tuning. (This is a skill I recommend learning.) It is also possible that individual musicians may have adjusted the size of these intervals a bit (as with the narrowing of the ditone reported by Aristoxenus) to suit their ears' preferences.

As to the spondeion scale, it can be tuned easily by ear in a quite accurate approximation as follows: starting with the fourths/fifths of the Dorian scale, tune c' above a (mesē) as a minor third, and then raise its pitch a little, until the third sounds neither major nor minor (or, alternatively, like a simultaneous major and minor third). This will give you the b-c'♮ as a midtone interval; f♮ can be gotten as a pure fifth below c'♮.

(See additional tuning information and procedures in the Appendix.)

SUPPLEMENT: Cycled Pentatonic Scales

We have seen an example (p.55-7), given in a synopsis here, of the cycling of the pitches of one mode (① Dorian) into another (② Lydian), without a change in tuning of the lyre, by moving the tonic to another scale degree,



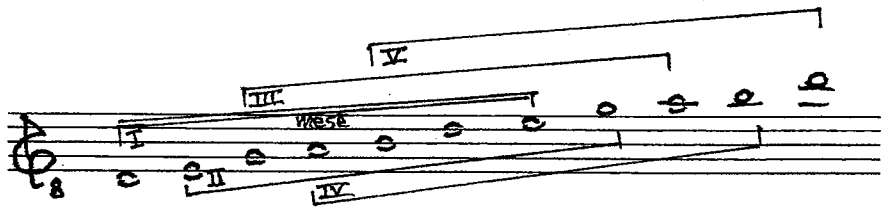
① Dorian

② Lydian

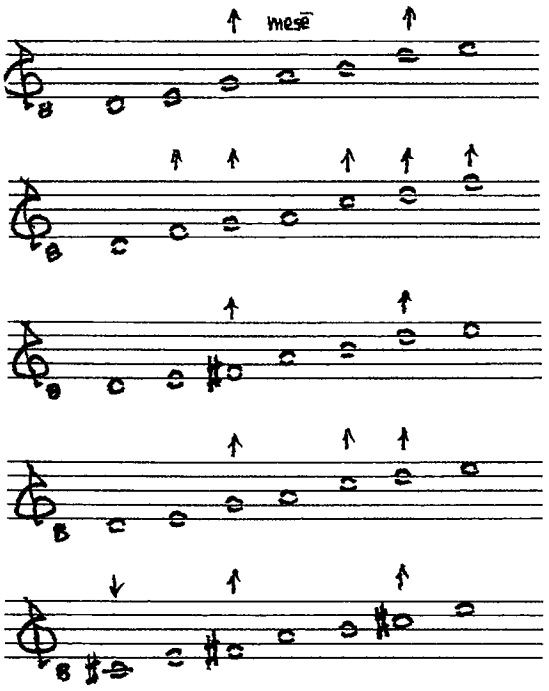
③ Lydian transposed

and how by transposing the Dorian scale e to f' down a tone, a complete Lydian scale will fit into the octave-plus-tone range of the lyre. (The strings retuned from the original Dorian tuning ① are indicated with arrows.)

We can similarly locate in my hypothetical Phrygian, minor-third pentatonic scale (⑤, p.59), five distinct pentatonic modes, as follows, from the basic Phrygian scale extended to two octaves.



Each of the scales II-V can then be brought into the lyre (and vocal) range (sometimes called the "central octave") by transposition, as shown on the following page.



I Phrygian scale ⑤

II transposed

III transposed

IV transposed

V transposed

The procedure used here was a part of the process of systematization of scales, modes and "keys" (tonoi) of the later Greek theorists. See, for example, GMW 2, Introduction, p.15ff; AGM, 185, 228; New Grove$_1$ (1980), Greece I, 8-9, vol.7, p.666-8 (by R.P. Winnington-Ingram).

Different scale pitches can function as tonic in each of the above modes. These modal scales are used in some of the musical reconstructions in later chapters.

NOTES (Tonal Materials)

1. Cleonides's Aristoxenian system (probably 1st or 2nd century CE) gives "seven species" of octave: the Mixolydian is (in our conventional pitch assignments) the octave of "natural" notes B-b; Lydian is c-c'; Phrygian d-d'; Dorian e-e'; Hypolydian f-f'; Hypophrygian g-g'; and Locrian or Hypodorian, a-a' (Cleonides, "Harmonic Introduction," Source Readings in Music History... selected and annotated by Oliver Strunk (New York: Norton, 1950; second ed.,), p.41-2; the translation is by Strunk). See also AQ 15.10, GMW 2, 417 with footnotes.

2. R. P. Winnington-Ingram, in his article on ancient Greek music in the first New Grove (London: Macmillan, 1980), a holdover from the 1950s but still to be recommended as a superior overview of the subject, suggests the following evolution:

> (1) the concrete melody sung on some particular occasion by a particular singer; (2) the formulae and other peculiarities governing a particular style of song; (3) the notes required for this style arranged in pitch in order to form a scale (whether or not it was also the tuning of a string instrument); (4) a basic scale to which all such "modal" scales can be related. Extant Greek theory deals almost exclusively with (4); the harmoniai, as scales, fall under (3), but owe their characters to (2). (vol.7, p.666-7)

We are looking mainly for evidence from stage (2); there are even some useful surviving traces of the first stage.

Serious students of the Greek harmoniai will need to read Winnington-Ingram's book, Modes in Ancient Greek Music (Cambridge U. Pr., 1936; repr. 1968). More recent interpretations to be recommended include Andrew Barker's in his OCD_3 entry on Music; Anderson's MMAG (50-4, 124-5, 151-7) is especially valuable in exploring the literary references to the early harmoniai; West's survey of the modes in AGM is less helpful than one might wish, though references are provided; much richer is his survey of relevant history and literature in the chapter "Historical Synthesis: I," 329-55.

3. Lou Harrison's Music Primer: Various Items about Music to 1970. New York: C.F. Peters, 1971, 27-8.

4. Greek music theory recognized as determinative the difference between a composite (suntheton) interval, the ditone in the diatonic scale, for example, and an incomposite (asuntheton) interval, a ditone in the enharmonic scale.

On ancient Mesopotamian diatonic tunings, see M.L. West, "The Babylonian Musical Notation and the Hurrian Musical Texts," Music & Letters 75 (1993-4), 162; overview in NG_2, "Mesopotamia," v.16, p.485. The major-third pentatonic scale is the melodic basis of much of the two Delphic Hymns of 127 BCE (AGM 288-301).

5. AGM 389.

6. AQ 19.3, GMW 2, 419-20 (toútōn dḕ kaì ho theîos Plátōn en têi politeíai mnēmoneúei). (See Anderson's note on the Greek text here and its meaning, MMAG 154 n.9.) AQ's scales are generally (but not universally) accepted as authentic. J.F. Mountford's "The Musical Scales of Plato's Republic," Classical Quarterly 17 (1923), 125-36, still offers valuable insights on the scales.

7. AQ's interval sequence for the Dorian scale is: tone, two quarter tones, ditone, tone, two quarter tones, ditone. His Greek text, edited, with a Latin translation by Marcus Meibom (Amsterdam: L. Elzevir, 1652), has been reprinted by Broude Bros. (New York, 1977), vol.2. (Vol. 1 contains Meibom's Aristoxenus, Cleonides, Euclid, Alypius, Gaudentius and Bacchius; the two volumes have the title Antiquae Musicae Auctores Septem.) On the undivided semitone, see the Plutarchian treatise De musica (which will be referred to here as "Plutarch") 1135b, GMW 1,217.*

8. Seven-string lyre: Terpander, testimonia 1, 14, 16 (GL 2, pp.294-5, 304-7), fr.6 (GL 2, 316-9, Campbell's transl.) (soì d' hēmeîs tetrágērun apostérxantes aoidàn/heptatónōi phórmingi néous keladḗsomen húmnous). Ion's eleven strings: elegiac fragment 32, GL 4, pp.366-7 (hendekákhordē lúra ... prìn ...heptátonon). Both Terpander and Ion are quoted by Cleonides, given in Strunk (above, note 1), p.44. See also GMW 1, 208n18.

9. AQ's Lydian interval sequence is: quarter tone, ditone, tone, two quarter tones, ditone, quarter tone. (The semisharp (♯) raises the pitch an approximate quarter tone.)

10. Mesē pitch not to be altered: Aristotelian Problems 19.20, GMW 1, 195, and 19.36, GMW 1, 199; and Dio Chrysostom 68.7: "just as with the lyre musicians first set

*The Greek text of De musica, with an English translation by B. Einarson and P.H. De Lacy, can be found in vol.14 of Plutarch's Moralia, pp.344-455 (LCL, 1967).

the middle string and then tune the others to harmonize with that" (hṓsper en lúrai tòn méson phthóngon katastḗsantes épeita prὸs toûton harmózontai toùs állous), tr. H.L. Crosby (Dio Chrysostom, vol.5, p.134-5, LCL, 1951); not included in GMW. While it was the reference-pitch for tuning a lyre, mesē was not, however, invariably the tonic pitch, as some have argued (perhaps under the influence of the surviving compositions of Mesomedes.)

11. A change in harmonia seems normally to have required some change in the tuning of the lyre, as a passage from Aristophanes's Knights suggests (986-95, GMW 1, 102): "The boys that went with [Cleon] to school/say he would often tune his lyra only in the Dorian mode, and refuse to learn another" (phasì gàr autὸn hoi paîdes hoì xunephoítōn,/tḕn Dōristì mónēn àn harmóttesthai thamà tḕn lúran, állēn d' ouk ethélein matheîn). In the notation of the scales, arrows indicate the strings to be retuned from the Dorian.

12. Plato's characterization of Lydian and Syntonolydian harmoniai: Rep.398e, GMW 1, 130-1. In "Plutarch," Soterichus says that Damon was the inventor of the "relaxed" (epenheimenē) Lydian (1136e). His observations on the modes and their qualities are well worth reading in their entirety (1136c-1137b, GMW 1, 220-23). The intervals of AQ's Syntonolydian scale are: two quarter tones, ditone, trihemitone (minor third).

13. The Mixolydian interval sequence in AQ's scales is: two quarter tones, two tones, two quarter tones, tritone; he calls this "a complete systēma." With the quarter tones combined, the scale in our pitches is:

e f g a b♭ e',

a hexatonic scale of which four pitches must be retuned from the Dorian ①. The Mixolydian mode was characterized by Plato and Aristotle as mournful or anxious (GMW 1, 130-1, 175). In "Plutarch": invention, according to Aristoxenus, by Sappho, 1136c-d, GMW 1.221; supposed invention by Terpander, 1140e, GMW 1,233; association with tragedy, 1136c, GMW 1,221; cf. AGM, 182. A treatise perhaps by Psellus (ca. 1300 CE) states that the modes used most in "the oldest [music of tragedy] were the Dorian and Mixolydian, the first most suited to solemnity, the Mixolydian given to lamentation" (tôn de tónōn pleîston mὲn hē palaià [tragikὴ melopoiía] kékhrētai tôi te Dōríōi kaì tôi Mixoludíōi, tôi mὲn hōs semnótētos oikeíōi, tôi

dè Mixoludíōi hōs sunergôi prὸs toὺs oíktous) (Robert Browning, "A Byzantine Treatise on Tragedy," ΓΕΡΑC: Studies Presented to George Thomson ... (Prague: Charles University, 1963), p.69).

14. Olympus: GL 2, 264, 272-85; cf. AGM with additional ancient material in n.9; MMAG, 54-4. Dorian, Lydian and Phrygian: "Plutarch" 1134a, GMW 1, 213; Athenaeus 624c, GMW 1, 295; Ptolemy 56.4-6, GMW 2, 329. In addition to these three, there is notable mention in our ancient sources of an Aeolian harmonia. The tribe of Aiolees was Greek, but settled in Phrygian territory; the Aeolic dialect is most celebrated as the language of Sappho and Alcaeus. Some sources equate the Aeolian and Hypodorian modes; neither is represented in AQ's Damonian scales. The composers Pindar, Lasus and Pratinas all mention Aeolian music; Lasus calls the Aeolian mode "deep-sounding" (barubromon; GL 3, 306-7); Pratinas compares "Aeolizing" in song to "plowing the middle of the field" (tὰn mésan/neôn árouran aiólize tôi mélei; GL 3, 324-5; quoted in Athenaeus, 624f, GMW 1, 282). On the ancient Aeolian, MMAG is especially good (p.88-94), as is Isobel Henderson in her stll valuable synopsis, "Ancient Greek Music," New Oxford History of Music, vol.1, ed. by E. Wellesz (1957), 382-4. See also AGM 178-9, 183, 342; GMW 1, 233 n177, 281-2, and Appendix A, p.167. West conjectures an Aeolian scale (AGM 342) of d e f a b♭ d' (where d is presumably tonic), not an unreasonable proposal; from our Dorian scale ① two strings would need retuning to get this sequence of pitches: b to b♭ and e' to d'.

15. On the instruments, see the following chapter.

16. Character of the Phrygian mode: Plato, "moderate," Rep.399a-c, GMW 1, 131; Aristotle (critical of Plato), "ecstatic," Politics 1340b, 1342b, GMW 1, 176, 181; cf. Barker's Appendix A, GMW 1, 168; Aristotelian Problems 19.48, GMW 1, 203. The composer Stesichorus evokes a "tender" (habrôs) springtime discovering of a Phrygian melody (fr.212, GL 3, 128-9; not included in GMW); Euripides calls for "ecstatic cries to the god of ecstasy/with Phrygian shouts and exclamations," Bacchae 157-8 (tr. D. Kovacs, LCL) (eúia tὸn eúion agallómenai theὸn/en Phrugíaisi boaîs enopaîsí te), GMW 1, 75.

17. On the enharmonic Phrygian: "Plutarch" 1143b, GMW 1, 240-1; there is the opinion in "Plutarch" that only the enharmonic scale was used by the ancient musicians, but this seems quite unlikely, and is contradicted elsewhere--by the AQ scales, for example. AQ's sequence of intervals for the Phrygian scale: tone, two quarter

tones, ditone, tone, two quarter tones, tone.

18. Aristotle Politics 1290a 19-29 (a passage not included in GMW) as paraphrased by Anderson in Ethos and Education, p.144, who comments that Aristotle is "using musical terms to clarify constitutional theory," viz., the difference between oligarchic and democratic government. Those to whom Ar. refers could, of course, have been contrasting the (major-third) pentatonic Dorian with a diatonic, rather than a pentatonic, Phrygian. In support of this is a remark attributed to Aristoxenus (fr.84, not included in GMW, but see AGM 175 n49) that "the enharmonic genus suits very well the Dorian harmonia, and the diatonic the Phrygian" (proshḗkei dὲ eû mála tὸ enharmónion génos têi Dōristὶ harmoníai, kaὶ têi Phrugistὶ tὸ diátonon). For the passage from Aristotle as well as my argumentation for a minor-third pentatonic Phrygian, see the Appendix; use of the pentatonic Phrygian here includes my musical reconstruction of Pindar's Olympian 11 (Appendix).

19. Terpander's scale could also have been (as implied by Barker, GMW 1, 198n62) e f g a c' d' e', but without the structural clarity given by the b d' e' trichord; cf.AGM, 177. Burkert (Lore and Science, 391-4) gives Philolaus's scale as "obviously e f g a b d' e'" (393n36), though the main source for his scale, Nicomachus's Enchiridion ("Manual"), ch.9, 253.3ff, GMW 2, 261-2, presents a confusing and not quite definitive recipe for it. Cf. AGM, 176-7, 220; Winnington-Ingram, "The Spondeion Scale" 88 (below, note 22); A. Barker, The Science of Harmonics in Classical Greece (Cambridge U. Pr., 2007), 276-7, somewhat ambiguously.

20. Mixed scales: Aristoxenus*(his meaning is not entirely clear) 7.1-5, GMW 2, 131; Ptolemy 39, 75-80, GMW 2, 312-13, 351-6. Cf. AQ 29.5, GMW 2, 431.

21. Note that I have changed the relative position of trichord and tetrachord from that of Terpander/Philolaus to that of AQ. The other possible trichord in ⑥ is, of course, d e g. My choice of d f g is somewhat arbitrary, but is conditioned by the preference for the more "minor" sound of the scale with the latter trichord, in keeping with the "minor-type" character of the Phrygian mode in the later, systematized scales.

22. The sign 𝄲 is a semisharp, which raises the pitch by a quarter to a third of a tone. AQ gives special names for the midtone: he calls the descending interval

*Unless otherwise noted, "Aristoxenus" references are to his Elementa harmonica.

eklysis ("release"), the ascending, spondeiasmos, De musica 28, GMW 2, 430 with n138. Of the two versions of the spondeion scale above, Barker favors the first, GMW 1, 255-6, while Winnington-Ingram seems to prefer the second ("The Spondeion Scale," Classical Quarterly 22 (1928), 89-91.) Cf. AGM, 164n9, 173-4.

+ 23. Douglas Leedy, "Recognizing the Midtone, a Primary Musical Interval," Chez l'Auteur, 2006.

24. The Greek "method of concordance" (lēpsis dia sumphonias ("getting [an interval] by means of concordance")): Aristoxenus, 53.3ff, GMW 2, 168; Euclid, Proposition 17, GMW 2, 203; "Plutarch" 1145a-c, GMW 1, 245; Ptolemy 1.16, 39.12ff, GMW 2, 312-13.

25. See note 10 above.

26. Aristoxenus (56.15ff, GMW 2, 168-9) suggested, quite mistakenly, that small discrepancies in the tuning of the consonant intervals have a negligible effect on their quality. (Cf. Appendix below on Aristoxenus, p.2 and note 4.)

27. Aristoxenus, 23.1-22, GMW 2, 141-2.

28. On the seven-based intervals in Greek tetrachordal tunings, see Winnington-Ingram, "Aristoxenus and the Intervals of Greek Music," Classical Quarterly 26 (1932), 195-208.

6. VOICE, INSTRUMENTS, DANCE

The human voice was the most important musical instrument in ancient Greece, as it naturally is most everywhere. The Greeks had both solo and (unison) choral song in varying degrees of formality, including songs for girls, women, boys and men, though men and women did not normally sing together. Both formal and informal song was regularly accompanied by one or more instruments, usually the lyre or kithara, or--for choral song on the stage particularly--the reed-pipe, the aulos. (Some musical performances and rites prominently included various percussion instruments, which are not included in this presentation.[1]) Dance was considered by the Greeks not only as good for the body and mind, but was often an equal partner with words and melody in musical performance.

We know very little about vocal quality or performance style in ancient solo song. A good voice was regularly praised as ligus or liguros, words meaning, mainly, "clear"; the words are general and, of course, subjective, and possibly could even apply to accuracy of pitch as well as to vocal timbre.[2] For our purposes a steady tone is a requirement, that is to say, one without wavering of pitch, and without vibrato. Since intonational inflections are so important to Greek melody, an ear sensitive to pitch and intervallic intonation is a desirable asset, along with good pitch control. As to quality, the only approach to be avoided is that of the "cultivated" Western-style vocalism one finds particularly in so-called art music. "Beauty" of sound is irrelevant, nor apparently is it a quality invoked by the Greeks. Work on pronunciation--vowel quality in particular, but also consonant production, dentals especially--will help "place" the voice as one acquires an "ancient Greek accent."[3]

The two principal instruments of ancient Greek music, one a woodwind, the other stringed, were highly specialized adaptations of older, regional instrument types for their musical purposes, and were evidently quite similar to double-clarinet- and lyre-type instruments one can find today in North Africa and the Eastern Mediterranean.[4] Though both instruments were of non-Greek origin, the uses of each span centuries: Olympus was an aulete (aulos-player), as mentioned earlier;

the instrument's ritual use continued from the eighth century, becoming an accompaniment to the chorus in the music of the tragic stage, while, played by women, it accompanied "popular" song at the typical drinking-party (sumposion).

The lyre appears in a Mycenean fresco at Pylos, ca.1300 BCE,[5] and along with its larger siblings, the phorminx, kithara and barbitos, provided the traditional accompaniment of heroic and lyric song. Both aulos and kithara in later centuries became solo instruments, and their players virtuosi who competed for prizes;[6] the Romans in turn used the kithara (cithara, fides) and aulos (tibia) in much the same way as the Greeks, until the instruments were done away with by Christian Rome.

Perhaps the most striking of the Greeks' foundational stories of their instruments, that of the supposed invention of the lyre by the infant Hermes (Mercury), while undoubtedly very old, is entertainingly told in the (rather late) Homeric Hymn to Hermes,[7] who not only assembled the instrument from parts of an unfortunate tortoise, a cow and some sheep, but also immediately played on and sang to the completed lyre with great skill--though naturally not as great as that of Apollo (lines 499-502, 509-10), who receives the instrument as a gift from Hermes. The aulos is mentioned briefly in the hymn in a rather startling passage, where Apollo, praising Hermes's musical talent, says, "I too am a follower of the Olympian Muses, whose concerns are dancing, (?) lively (tethaluia) music and the delightful noise of the auloi" (450-2).[8]

These two instruments create a remarkable thread of musical and cultural continuity, as their constant invocations in the ancient sources testify, connecting, along with voice and dance, what was probably a majority of public and private activities of every kind over the course of many centuries.

The aulos is not called for specifically in any of the musical reconstructions here for obvious, practical reasons: attempts to create and play replica instruments have not been particularly satisfactory, so far as I am aware (not to mention attempts at digital synthesis). The treatment of the instrument in the literature of modern times is, however, quite extensive; a few surviving instruments or portions of others have been studied carefully and reported on in

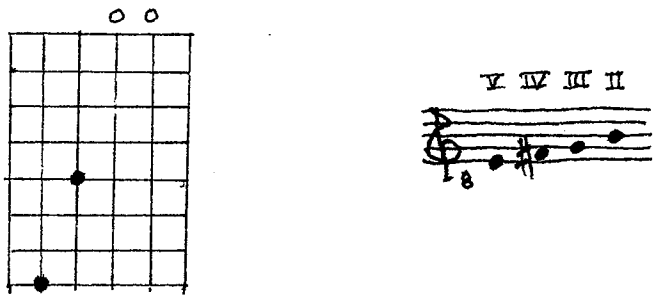
great detail, telling us everything but what we really want to know about the instrument's musical attributes. For this we have to read the many and varied ancient reports. The aulos, or (plural) auloi, usually a pair of double-reed pipes, accompanied solo as well as choral singing in (we think) a generally simple unison style; as a solo instrument its technique undoubtedly involved elaborate ornamentation (as one can hear in today's playing of the "double clarinet," the Arab mijwiz or mizmār). A possible substitute for the accompanying aulos would be an oboe-clarinet or oboe-English horn unison, or perhaps a pair of oboes, shawms or clarinets.[9]

A curious legacy of the aulos, pointed out by John Landels, is the word diesis, which the Greeks applied to the smallest melodic interval in a tetrachordal tuning, and which thus could vary in size from a quarter tone to a semitone; the word comes from dia-hienai, "to let through," or in Landels's practical term, "to leak," referring to half-hole fingering technique on a woodwind. It is evidently the only technical term in Greek music theory derived from a wind instrument.[10]

Literature, both ancient and modern, on the ancient Greek lyre and its relatives is extensive; the most telling references are, I find, those of the composers themselves, Pindar especially, whose invocations of the phorminx as the composer's inspiration are celebrated.[11] A few replica instruments have been made, played on, and recorded in recent times, with quite musical results.[12]

We do not need the ancient instruments for our purposes here, which will be very satisfactorily served with a variety of modern substitutions. No apology need be offered for the use of instruments of the harp, lute (guitar) or zither families, which are as old as that of the lyre, and members of which turn up sporadically in the ancient Greek musical world.[13] Almost all the musical reconstructions here are intended for voice and plucked string instrument, which moves regularly in unison with the voice, in the style of Plato mentioned above,[14] contributing a short prelude (anabolē) to a song, and brief, metrical interludes at suitable places in the music; the use of the instrument will be a part of the presentation of each musical reconstruction in the following chapters.

There are various stringed instruments that can serve as a substitute for a four- or seven-string lyre: an autoharp (plucked with the fingers), zither, or small harp, for example. As a stand-in for Homer's four-string phorminx, a guitar can reproduce the intervals I use (p.33 above) with no retuning and two stopped strings.[15]



A plectrum was used regularly from some point, but earlier practice (at least for our schoolboys) was to pluck the strings with the fingers, which I recommend, letting the strings ring undamped.[16] Other later techniques peculiar to the kithara (and carefully illustrated by Greek artists) included left-hand damping of strings combined with a swept-string plectrum technique; some polyphonic excursions occurred (since Plato specifically forbids them in the Laws passage referred to previously); none of these resources will be called for here. Formal solo and group song always had the benefit of instrumental support, which, along with its practical advantages (even, as the Greeks claimed, the covering up of bad singing), gives the music a breadth of effect that it lacks without it.[17]

Modern examples of singing in unison with a plucked string instrument can be found, for instance, in recorded performances by the Nubian vocalist Hamza El Din, and of music in the Ethiopian Azmari style of voice and krar (a five- or six-string lyre; the name is cognate with kithara).[18]

The third aspect of musical performance, along with words and melody, was dance: these together belong to what the Greeks thought of as Music (mousikē, sc. tekhnē), that is, those human endeavors that were overseen by the Muses, with whose inspiration Sappho, Pindar and other notable poet-musicians created as an indivisible unity the words, melody and choreography of their compositions.

Aristides Quintilianus writes,

> Rhythm in general is perceived by three senses, which are these: sight, as in dancing; hearing, as in melody; and touch, by which we perceive, for example, the pulsations of the arteries. Musical rhythm, however, is perceived by two of them, sight and hearing. Rhythm is imposed in music upon the movement of the body, upon melody, and upon diction: and each of these appears both alone and in combination with others. . .[20]

As singing projects words into musical and acoustical space, so are words, melody and rhythm projected by dance into the further dimension of physical space.

One can get some idea of the place of dance in the lives and culture of ancient Greece from their long lists of dances, both formal and informal, and from the vast numbers of surviving images in sculpture and on pottery--all "snapshots," of course--of dancers and dancing. Among other things, these illustrations show the importance in dance of the role of the arms and hands in physical gesture (kheironomia, "cheironomy").[21]

What is the modern student to do with the choreutic (khoreutikos, "of or for the dance") aspect of ancient music? At least some simple experiments of improvisational movement to memorized music will be indispensable. For some, especially those who have experience with Balkan folk dance, such a physical interpretation of the music in "dance space" will seem natural and familiar; for others, myself included, it will be less so, but not without its effect. (Ideally, the kinesthetic memory of the dance movements will remain, and will be recalled with words and melody as a single, unified experience of memory.) A few suggestions about dance movement are offered with some of the separate musical reconstructions in the following chapters.[22]

In the introductory chapter of his admirable study of the compositional technique of Pindar, who is probably the unsurpassed master of this musical synthesis, William Mullen writes that

> the magical power of any rhythm is to heighten attention and lead it into spheres otherwise inaccessible. When these are spheres where

> the powers of music, dance and language merge under the governance of a single rhythm, the spell is deep indeed.[23]

The rhythms of choreography must be considered, however, for a purely practical reason: the rhythmic structure of the dance in lyric and dramatic compositions was not identical to the metrical structure of the words. As Quintilian put it in his "Orator's Education," "Metre is a matter of words only, Rhythm includes movements of the body."[24] In order to reconstruct and perform the musical works we therefore have to identify those places where rhythm and meter differ; inconveniently for us, little or no direct evidence has survived of these differences. Indirect indications will nevertheless allow us to derive and incorporate quite straightforwardly in the musical examples the extension of specific lines with brief instrumental figures, implying dance steps and, for the singers, rests (kenoi khronoi, "empty time-units")--which of course are needed for breathing in any case.[25]

This aspect of reconstruction will be considered in detail for each work taken up in the chapters on lyric composition to follow. For now it need only be noted that composers seem to have allowed, in the rhythmic structures of repeating strophes, for regularly occurring points suitable for such extensions.

Let me close my too tentative treatment of this essential aspect of ancient Greek music with the encouragement of Lucian, who in his On Dance asks,

> Then why is not dancing a thing of utter harmony, putting a fine edge upon the soul, disciplining the body, delighting the beholders and teaching them much that happened of old, to the accompaniment of aulos and cymbals and cadenced song and magic that works its spell through eye and ear alike?[26]

NOTES (Voice, Instruments, Dance)

1. Percussion instruments of various kinds were as widely used in ancient Greece as in most cultures, but their employment in "formal" music appears to have been quite limited. AGM has the most useful overview (p.122-8), with many source citations. Thomas Mathiesen's Apollo's Lyre (Univ. of Nebraska Press, 1999, p.162-76) gives extensive descriptions of percussion instruments, with illustrations, and some of their uses, including, possibly, in the training of a chorus (p.166-8). Andrew Barker notes that percussion instruments "appear as accompaniment to dance of all sorts, public and private, not only in ... [the] ecsatatic rituals of the mystery cults ...; but there are suggestions in some authors ... that they went with a type of music that was orgiastic and unseemly, not elevated and dignified. They are natural associates of Dionysus and the aulos, rather than Apollo and the kithara" (GMW 1, 17).

2. West's chapter in AGM on the voice is especially good: his is the only general study I am aware of to offer such obviously indispensable treatment. ligus/liguros can be either "sweet" or "shrill," depending on context.

3. See note 18, below, on recorded examples.

4. Cf. NG_2 s.v. "Lyre," "Mizmār," "Arab Music" II.4 with illustrations; AGM, p.48-9, 81-2, 327-31; MMAG, Chapter 1.

5. Reproduction, MMAG, p.13, fig.10.

6. Including in at least one case, of a certain Midas of Akragas (Sicily), an aulos-player, a victory ode from Pindar (Pythian 12, 490 BCE).

7. Homeric Hymns etc., edited and translated by Martin L. West, LCL 2003, p.112-59; the portion on musical instruments is translated in GMW 1, 42-6 ("this marvellous poem should be read as a whole," comments Barker, p.42). Particularly good are Anderson's remarks on musical aspects of the hymn, MMAG 54-6, although in line 54 West's translation, "[the lyre] rang out impressively" seems contextually more suitable than Anderson's "made a fearful clatter" (smerdaléon konábēse). Note also that the child used a plectrum (line 53), probably a later playing technique.

8. kaì gàr egṑ Moúsēisin Olumpiádessin opēdós,/têisi khoroí te mélousi kaì aglaòs hoîmos aoidês/kaì molpḕ tethaluîa kaì himeróeis brómos aulôn.

9. See especially Athenaeus 174a-185a and 616e-618c, GMW 1, 259-75. Kathleen Schlesinger's monumental study (The Greek Aulos, 1939) is significant now only for her theory of scale construction, which is not Greek; historical and physical evidence has largely discredited her work. Extensive technical information is given in NG_2, s.v. "Aulos" (A. Bélis); AGM, 81-107; MMAG, 179-84; Apollo's Lyre (note 1, above), 177-222. An excellent technical summary is that of John Landels (who made a specialty of the aulos and its presumed playing technique), Music in Ancient Greece and Rome (Routledge, 1999), 24-46.

The most complete treatment I am aware of both of the construction of the instrument and how it may have been played is to be found in Stefan Hagel's Ancient Greek Music: A New Technical History (Cambridge, 2010), especially Chapters 9 and 10. (Hagel's demonstration of an aulos replica is mentioned below, note 12.) There are many images in ancient Greek art of auloi and aulos-playing; the illustrations of the ancient instruments in the 1980 New Grove are superior to those in NG_2. Illustrations of mizmār/mijwiz: see note 4, above; illustrations and a recorded performance of mijwiz can also be found in Music of the Arabs, by Habib Hassan Touma (Amadeus Press, 1996, with CD), p.129-31. Note that the two pipes of the aulos were separated from one another at an angle of about 15 degrees or wider, while those of the mizmār/mijwiz (double oboe or clarinet) are adjacent and parallel, with adjacent pairs of finger-holes, each pair of which can be covered by the joints of a single finger; the playing technique is thus necessarily very different from that of the aulos.* (p.81)

10. Landels (previous note), p.35; also AGM, 235 n.41. Cf. further treatment in the appendix below on the minor-third pentatonic mode.

11. Cf. MMAG, p.101ff. Surveys in AGM, 48-70, MMAG, 171-8; NG_2, s.vv. "Lyre," "Phorminx," "Kithara," "Barbitos." The most extensive modern treatment of these instruments is by Martha Maas and Jane M. Snyder, Stringed Instruments of Ancient Greece (Yale, 1989); cf. also Hagel (note 9, above), p.76-96.

12. Better than with attempts to replicate the aulos. Replicas of kithara and aulos played in various styles can be heard at www.oeaw.ac.at/agm; I regret to report that these particular attempts are to my ear quite unappealing. The playing techniques also introduce chordal effects on the kithara and polyphony on the

auloi that were most likely not part of Greek musical practice in the earlier era we are concerned with here. (An example of the performance of Homer at the same website is, however, highly recommended, with the reservations given above, Chapter 4, p.49 n.14.)

13. A sort of catalog of these unusual instruments is to be found in Athenaeus, 634c-637f, GMW 1, 293-300.

14. Unison accompaniment (proskhorda): Plato, Laws 812d, GMW 1, 162-3; cf. "Plutarch" 1141b, GMW 1, 235, and Aristotelian Problems 19.9, 19.43, GMW 1, 191, 201-2; the singing "mistakes" that the aulos supposedly covers up seem to me likely to have been pitch problems.

15. To transpose these intervals to a lower pitch will of course require some retuning; a capo can be used to move them to a higher pitch. Even an ukulele can be used for Homer: from the standard tuning, simply lower the pitch of string IV a tone and put a finger at the second fret of III.

16. Note 14, above. Schoolboys could use either finger or plectrum; see Plato, [Lysis 209b.

17. Note 14, above.

18. There are several CD albums by Hamza El Din, including "Eclipse" (Rykodisc, 1978); an example of the Azmari accompanied song is the album "Tesfaye" by Seleshe Damessae (Music of the World, 1990); Damessae's krar playing includes elegant elaboration of the vocal line as well as interludes.

19. Aeschylus as choreographer: "I myself devised the (dance) figures for the chorus" (toîsi khoroîs autòs tà skhḗmat' epoíoun), Aristophanes, frag.696.

20. ho pâs mèn oûn rhuthmòs trisì toútois aisthētēríois noeîtai: ópsis, hōs en orkhḗsei; akoêi, hōs en mélei; haphêi, hōs hoi tôn artēriôn sphugmoí. ho dè katà mousikḕn, hupò duoîn: opseṓs te kaì akoês. rhuthmízeto dè en mousikêi kínēsis sṓmatos, melōidía, léxis. toútōn d' hékaston kaì kat' hautò theōreîtai, kaì katà tôn loipôn ... AQ 31.18-25 (transl. Barker), GMW 2, 434. Cf. Aristoxenus, Elementa rhythmica 2.9, GMW 2, 186.

21. See NG_2, s.v. "Cheironomy"; cf. Athenaeus 631c, GMW 1, 291. Cheironomy was an important part of music and dance in ancient Egypt: see Lise Manniche, Music and Musicians in Ancient Egypt (British Museum, 1991), p.30ff and passim. As an

example of a complex language of cheironomy, see Lewis Powell, Music and Musical Thought in Early India (Univ. of California Press, 1992), p.65-6. Illus. p.100, below.

22. The main studies of ancient Greek dance in English are by Lillian B. Lawler: The Dance in Ancient Greece (Wesleyan Univ. Press, 1964) and The Dance of the Ancient Greek Theatre (Univ. of Iowa Press, 1964); and, much more briefly, by J.W. Fitton, "Greek Dance," Classical Quarterly 23 (1973), p.254-74. T.B.L. Webster's attempt to supply specific dance steps in The Greek Chorus (Methuen & Co., 1970), by putting together ancient pictorial evidence, a basic set of stock dance-movements and metrical analysis of solo and choral compositions, though largely unsuccessful, may be of help to some. (His long list of pictorial reproductions by museum catalog number, etc., could assist in locating specific images on the internet.)

23. Choreia: Pindar and Dance (Princeton Univ. Press, 1982), p.5.

24. metrum in verbis modo, rhythmos etiam in corporis motu est. Institutio Oratoria 9.4.51, transl. Russell. (Cf. the Appendix "Rhythmics, Metrics" below.) Quintilian (b. ca. 35 CE) has much of great interest to say about music, musical performance and the Greek composers (especially in Book 1, Ch.9 and Bk.9, Ch.4), all of which were a part of the training in rhetoric of ancient times (5 vol., LCL 2002).

25. Quintilian: "Rhythm also more readily allows unoccupied time units [than meter]" (inania quoque tempora rhythmi facilius accipient), loc. cit. (previous note), transl. Russell. A look at a typical metrical analysis (from even the most musical of modern metricians) of a lyric chorus, for example, should immediately prompt the question, "But where do the singers breathe?"

26. De Saltatione (perì orkhḗseōs) 72 (2nd c. CE); Lucian, vol.5, transl. by A.M. Harmon (slightly altered), LCL, 1936, p.275. Pôs oûn ou panharmónión ti khrêma órkhēsis, thḗgousa mèn tḕn psukhḗn, askoûsa dè kaì tò sôma, térpousa dè toùs horôntas, didáskousa dè pollà tôn pálai hup' auloîs kaì kumbálois kaì melôn eurhuthmíai kaì kēlḗsei diá te opthalmôn kaì akoês?

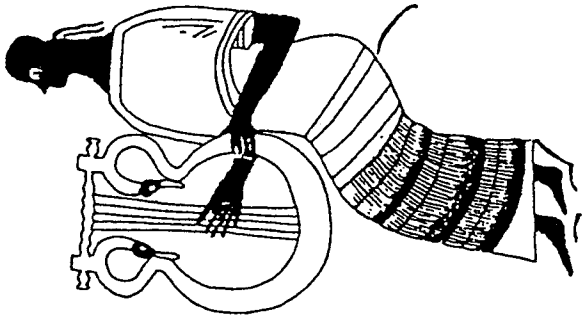
---

*(to note 9 above, p.79) See now aulochrome.com for a recently developed double woodwind inspired in part by auloi.

Temporary Page: Illustrations

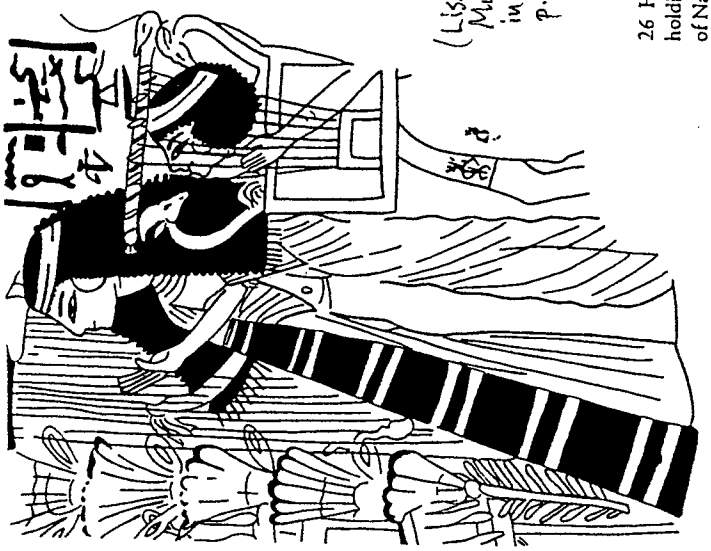
(A. Barker; "Public Music as 'Fine Art' in Ancient Greece," Antiquity and the Middle Ages, ed. J. McKinnon, Music and Society, Prentice Hall, 1990.) p. 59

20. Chorus singing to Dionysus: detail of a column krater (red-figure style, early fifth century BC) from Attica



(Warren Anderson: Music and Musicians in Ancient Greece) p. 13

Fig. 10. Fresco of a robed figure of a divinity, perhaps Apollo, with a five-stringed lyre, Mycenean, ca. 1300 B.C., from Pylos, Messenia, in the southwestern Peloponnesus (the "Singer"). (Reprinted from Aign 1963, 80, fig. 44.)



(Lise Manniche; Music and Musicians in Ancient Egypt) p. 46

26 Harpist and girl with Bes-tattoos holding a lyre. Theban Tomb no.341 of Nakhtamun; 19th Dynasty. (c. 1300 B.C.)

Singing Ancient Greek

Part 2

7. ELEGIAC AND IAMBIC POETRY

This chapter is concerned with poetry that, like epic, is unilinear (stichic), where, in the repetitive verse structures, variety is achieved through small differences of rhythm within the line, and especially in the interplay of word division, accent-melody and the metrical pattern.

Although the elegiac couplet (distich) consists of two complementary lines, it is in practice not distinguishable from unilinear poetry. For anyone familiar with the sound and feel of the dactylic hexameter line, the elegiac couplet poses no performance problems. Nor is there any lack of material, as elegiac poetry may have been the most popular poetic style in both Greek and Latin; it encompasses a range of expression from the most serious to the least. It is also ancient, going back to the seventh century or earlier.

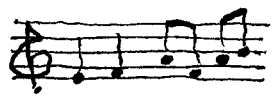
The first line of the couplet is a regular hexameter; in the second, shorter line, called the "pentameter," there is but one critical detail for the singer: despite the invariable caesura (word-break) at mid line, no rest can be interpolated at that point, such as some 19th- and 20th-century scholars have thought necessary. The line is sung without interruption. Not infrequently an elision will occur at midpoint, or it will be bridged syntactically, making interruption inappropriate. Both are true of the following couplet, by Antipater of Sidon (2nd c. BCE), from the Greek Anthology:

– ⏑ | – ⏑ | – ⏑ ⏑ | – ⏑ ⏑ | – ⏑ ⏑ | – – |
ēdē dè plássei mèn hupōropha gūrà khelīdōn
– ⏑ ⏑ – – | – ⏑ ⏑ – ⏑ ⏑ – ⏑
oikía, leimōnōn d' habrà gelâi pétala.

*Already the swallow (*khelidōn*) is building under the roof (her) round houses, and the meadow's soft leaves smile (*gelai*).*

At the end of the couplet the singer may add a rest of one long (or perhaps more) for rhetorical effect, but will normally continue directly to the next couplet.[1]

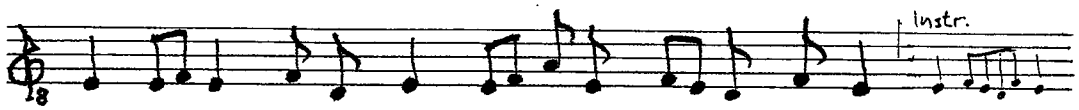
The easiest melodic approach to the elegiac couplet, and quite satisfactory, is the simple, four-note epic model. Or one could sing in a more expansive Dorian, as in the following lines (fr.1) of Mimnermus (later 7th century):[2]

Anabolē 

τίς δὲ βίος, τί δὲ τερπνὸν ἄτερ χρυσέης Ἀφροδίτης;

tís dè bíos, tí dè terpnòn áter khrūséēs Aphrodítēs?

What is life, what (is) pleasure without golden Aphrodite?



τεθναίην, ὅτε μοι μηκέτι ταῦτα μέλοι,

tethnaí-ēn, hóte moi mēkéti taûta méloi,

Let me die when for me no longer do these things matter:

b b c' b b c' b ab bc a b cb a b a, ab

κρυπταδίη φιλότης καὶ μείλιχα δῶρα καὶ εὐνή,

kru-- ptadíē philótēs kaì meílikha dôra kaì eunḗ,

secrets of amours and soothing gifts and the bed,

fe ef e ef de fa f e d e f e fa
instr.

οἷ' ἥβης ἄνθεα γίνεται ἁρπαλέα

hoî' hḗbēs ánthea gínetai harpaléā

such of youth's blossoms that captivate

b c' b a b b bc' c'

ἀνδράσιν ἠδὲ γυναιξίν· ἐπεὶ δ' ὀδυνηρὸν ἐπέλθῃ 5

men and women. But when the pain comes on

fe e f af fe
instr. afefE

γῆρας, ὃ τ' αἰσχρὸν ὅμως καὶ καλὸν ἄνδρα τιθεῖ,

of old age, which disfigures even a handsome man,

ἀεί μιν φρένας ἀμφὶ κακαὶ τείρουσι μέριμναι,

constantly his heart by miserable cares is worn,

af d e f e
instr. feD efD

οὐδ' αὐγὰς προσορέων τέρπεται ἠελίου,

nor is the light he looks on pleasurable from the sun.

a b c' a.b b.c' c'
ἀλλ' ἐχθρὸς μὲν παισίν, ἀτίμαστος δὲ γυναιξί(ν)·
Rather, (he is) hateful to boys and disrespected by women--

instr. f e a f e d e | B c'b A bc'B afEF edE
οὕτως ἀργαλέου γῆρας ἔθηκε θεός. 10
so harsh (is) the old age imposed by the god.

Performance notes: Improvise a brief instrumental anabolē (p.29, 35 above), perhaps simply e-f-a-b. Interrogative inflection, end of line 1; correption of kaì, line 3; hiatus from line 4 to 5 can be mitigated by a breath; enjambment 5-6 (no + breath). For the musical notation beginning with line 3, see above, p.41.[3]

Greek elegaic poetry was said to have been performed to the accompaniment of the aulos, presenting a performance problem absent for the kitharode (singer accompanying him- or herself on the kithara): singing with the aulos requires at least two performers, and so the question is, How can the aulos player provide a unison accompaniment when the verbal text, with its varied prosody, is unfamiliar or improvised? The answer may lie in the ancient practice, common in Egypt and probably elsewhere (see above, p.76 with note), of cheironomy, an indication of pitch-change by finger and hand signals (in use today in the performance of liturgical chant in various parts of the world) given by the singer to the instrumentalist.[4]

Iambos is a word of obscure origin and meaning, probably related to the word dithyramb. Iambic was first used to refer to a style of poetic expression characterized as "bitter," "scornful," "licentious"; later it came to be restricted within this style to a particular metrical pattern that we continue to associate with the name "iambic."[5] The most famous composer of iambic poetry was the seventh-century Archilochus of Paros (though unfortunately little of his work has survived). Iambic meter turned out to be of great and wide-ranging utility in Greek music: it is the principal vehicle of dialogue in tragedy and comedy, as well as a basic meter, along with related metrical figures, of solo and choral lyric on the stage, especially in the tragedies of Aeschylus.

There would be little to do at this point but present some examples of iambic composition if the Greek iamb were merely repetitions of that very basic rhythm of but two elements, short-plus-long (ᴗ – or ♪♩). As it happens in Greek practice, however, iambic meter is not so simple, and its rhythmic idiosyncracies present a challenge to the modern sense of rhythm.

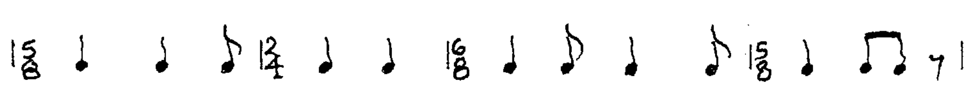
A single iambic line, a folk-saying usually attributed to Archilochus (fr.201), will serve as an example:

| – – ᴗ – | – – ᴗ – | ᴗ – ᴗ – |
póll' oîd' alṓ- pēx, all' ekhî- nos hèm méga.
Many things knows the fox, but the hedgehog one (thing), a big (one).

Probably because of their quickness, iambic feet were grouped by the Greek ear into pairs, called metra (and the pairing of the two is a syzygy, "yoking together"). Three metra (= six feet), as in our example, make an iambic trimeter, the most common disposition of iambics, usually referred to simply as "trimeter." But the rhythm, one notices immediately, is irregular: the Greeks allowed the odd-numbered feet to be either an iamb, short-long, or a spondee, long-long, while the even-numbered normally remained unaltered. The variable element is called anceps ("ambiguous"; above, p.8), represented in metrical analysis by the symbol x; the generalized iambic metron is thus represented symbolically as |x – ᴗ –|.[6]

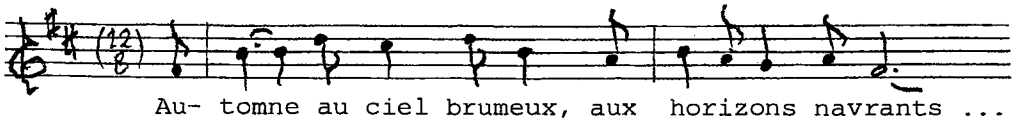
The variable foot causes some iambic metra to contain six shorts (units, or prōtoi chronoi) and some seven. In modern musical notation, the two metra are |6/8 ♪♩ ♪♩| and |7/8 ♩ ♩ ♪♩|; the second, by virtue of its greater length and spondaic foot, checks the speed of the regular iambic rhythm, so that it sounds "a bit slower and heavier," as Horace puts it.[7] The seven-unit metra seem to occur irregularly and arbitrarily: a trimeter line may have none, one, two (as in our line above) or three of them.

This effect is quite alien to our modern idea of iambic meter. Expressed in modern notation (albeit inadequately!), our example line is something like



póll' oîd' a- lṓ- pēx, all' e- khî- nos hèm méga.

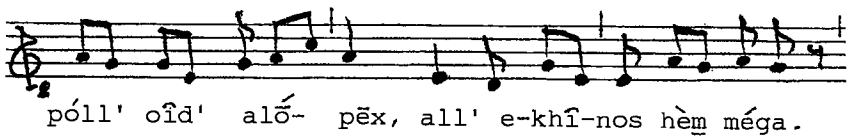
This hardly looks or sounds like the iambics we know, where we normally hear a short unaccented "upbeat" syllable followed by a stressed "downbeat" syllable of about equal length--"The cloud-capp'd towers, the gorgeous palaces," for example, or, with the familiar musical rhythm,



Gabriel Fauré, "Automne," op.18, no.3 (A. Silvestre).

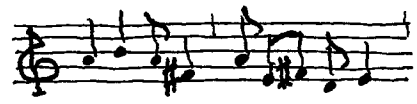
I have found that a considerable amount of practice of the iambic trimeter, both spoken and sung, is required in order to adjust the ear and rhythmic sense to the unpredictability and elasticity of the Greek model.

Were iambic trimeters sung or spoken? Archilochus is said to have used several methods of performance, including singing.[8] Our example line might be sung,



Modal scale: IV, p.65.

Typically of the compositional styles of the archaic period, very little remains of iambic poetry. There has survived a remarkable passage by the great statesman Solon (d. ca. 559 BCE; archōn or chief magistrate at Athens, 594), who was a prolific composer of poetry in several styles, describing his enactment of the seisakhtheia, the "shaking off of burdens," a cancellation of debt (including body-debt of serfs) and land mortgages. (It may surprise us to find such an account expressed as poetry, but Solon preceded by many generations Greece's development of literary prose.)[9] Of this document (fr.36) the first seven lines follow; the remaining twenty are given as a supplement at the end of the chapter. For practice, spoken performance is recommended as well as sung; the scale here can be used, or the familiar Dorian, or some other melodic framework.

Anabolē 

˘ – ˘ – ˘ – ˘ – ˘ – ˘ – (spondees)

d de e f#e e f#a f# e f# f#a f# a

ἐγὼ δὲ τῶν μὲν οὕνεκα ξὔνήγαγον (0)

egō̆ dè tôm mèn houne-ka xŭnḗ-ga-gon

And I, as to those things on which account I brought together

ba a b ab a f#a f# f#e f# f#a b b

δῆμον, τί τούτων πρὶν τυχεῖν ἐπαυσάμην; (2)

dê-mon, tí toú-tōm prìn tukheîn epau-sá-mēn?

the people--of these things, before the achievement of which did I stop?

f# e f# ab a f#d e d f# e a f#

συμμαρτυροίη ταῦτ' ἂν ἐν δίκηι χρόνου (2)

sum-mar- tu-roíē taût' àn en díkēi khrónou

A witness there will be to this, in the judgement of time:

ef#ef# a b af# f#a b a f# f#e a f#

μήτηρ μεγίστη δαιμόνων Ὀλυμπίων (2)

mē-tēr megí- stē dai-mó-nōn Olum-pí-ōn

the mighty mother of the gods of Olympus,

a f# e af# b af# e

ἄριστα, Γῆ μέλαινα, τῆς ἐγώ ποτε 5 (0)

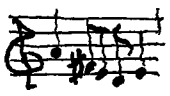
ári-sta, Gê mélai-na,

and best, dark Earth, of which it was I who once

ὅρους ἀνεῖλον πολλαχῆι πεπηγότας· (1)

the boundaries removed that in many places had been set;

f#e d de f# e

πρόσθεν δὲ δουλεύουσα, νῦν ἐλευθέρη.  (2)

previously enslaved, now she is free.

Performance notes: a short a, i, or u in a metron's first position has been indicated. Enjambment at 1-2, 4-5 etc., postponed breath. Semivowel diphthongs have underlining where syllable is accented (e.g., 2); underlined nu or sigma make a long final syllable in 8, 22 and 26. Hiatus at 5-6, 13-14, where a short vowel ends the line (but not at 23-4, a syntactic break), makes a brief silence with-

out a break in continuity. In the third metron of 26, πτολ- is probably performed short. Lines 6, 16, internal rough breathing (anheîlon, xunharmósas). At end of 25 (Λ), a measured rest of one iamb can be taken. Modal scale: III, p.65.

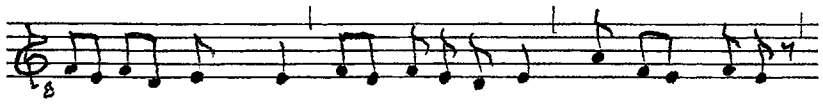
Iambic trimeter became a workhorse of Greek poetic composition, the most common meter for dramatic speech in both tragedy and comedy, as mentioned above; according to Aristotle, this was due to its closeness in effect to spoken declamation.[11] In comedy, dialogue almost certainly was mostly spoken. In tragedy, however, there is some evidence that at least at times it may have been a sort of "sung speech": Aristides Quintilianus mentions an "intermediate" kind of vocal production midway between speech's continuum of pitch and the discrete intervals of song, a "combination of both" that is used "to read poetry."[12]

For anyone interested in exploring the musical and dramatic possibilities of this style of performance, I offer some recommendations from my own experience: first, to speak in strict rhythm trimeter lines such as the following (and there is no lack of practice material!); then, to sing them repeatedly--again, strictly, and preferably from memory, using the simple Dorian intervals given here, or some other; and finally, to speak them again, but in effect on a "higher level," listening carefully and letting melody inform the spoken words. Over time, this kind of melodic speech--though stylized--will acquire the rhythmic and rhetorical freedoms of theatrical declamation.

In the following passage is an example of <u>resolution</u>, the substitution for a long syllable of two shorts, which can occur in most long positions of iambic trimeter, including the first anceps long of a line. Resolution (normally indicated <u>⏑⏑</u>) rarely presents a performance problem, and is not encountered with great frequency in Aeschylus or Sophocles.

Sophocles, Antigone 1087-90

(Teiresias)



– – ◡ – | – ◡◡ ◡ – | ◡ – ◡ – |

ô paî, sù d' hē- mâs ápage prὸs dómous, hínă

Boy, lead me home, so that

fe d e af f e d e f d e fe

– – ◡ – | ◡ – ◡ – | ◡ – ◡ – |

tὸn thūmὸn hoû- tos es neō- térous aphêi,

(his) anger this one [Creon] toward a younger man will vent,

kaὶ gnôi tréphein tὲn glôssan hēsŭkhaitérān

and learn to nurture a tongue more peaceable

tὸn noûn t' ameínō tôm phrenôn hôn nûm phérei.

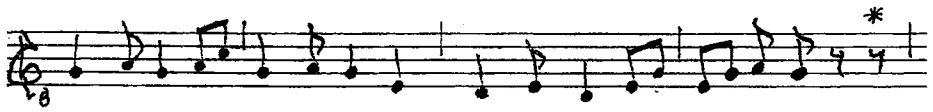
and thoughts better than his mind now holds.

Performance notes: ápage (1087) with resolved long; end of same line, -na is brevis in longo, followed by unit-length rest without disturbing enjambment.

The trochaic metron is the mirror image of the iambic metron; it consists of either two trochaic feet (– ◡ or ♩ 𝅘𝅥𝅮) or a trochee and a spondee: that is, either |♩ 𝅘𝅥𝅮 𝅘𝅥𝅮| or |♩ 𝅘𝅥𝅮 ♩ |. The generalized trochaic metron is |– ◡ – ×|.

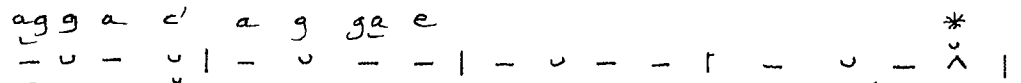
A poetic meter that was rather widely used in archaic compositions,[13] and that remained in use for centuries, was the trochaic tetrameter catalectic (often referred to simply as "tetrameter"). This line consisted of four trochaic metra (as defined above), the last of these being catalectic, that is, with its final element omitted (katalēxis from katalēgein, "to leave off"). In my interpretation, the missing element is in performance replaced by a rest of equal length, making the line rhythmically complete, though it is metrically shortened, an ex-

ample of the difference--here a very small difference, to be sure, but a most significant one--between meter and rhythm in ancient Greek poetic compositions.[14] Let a pair of lines, a fragment (fr.120) from Archilochus, serve as an example:



hōs Diō-nū́- sou ánaktos kālòn ex-ár- xai mélos

since Lord Dionysus's lovely song to lead



oîda dī-thṳ́- ram-bon oí-nōi suṇ-kerau-nō- theìs phrénăs.

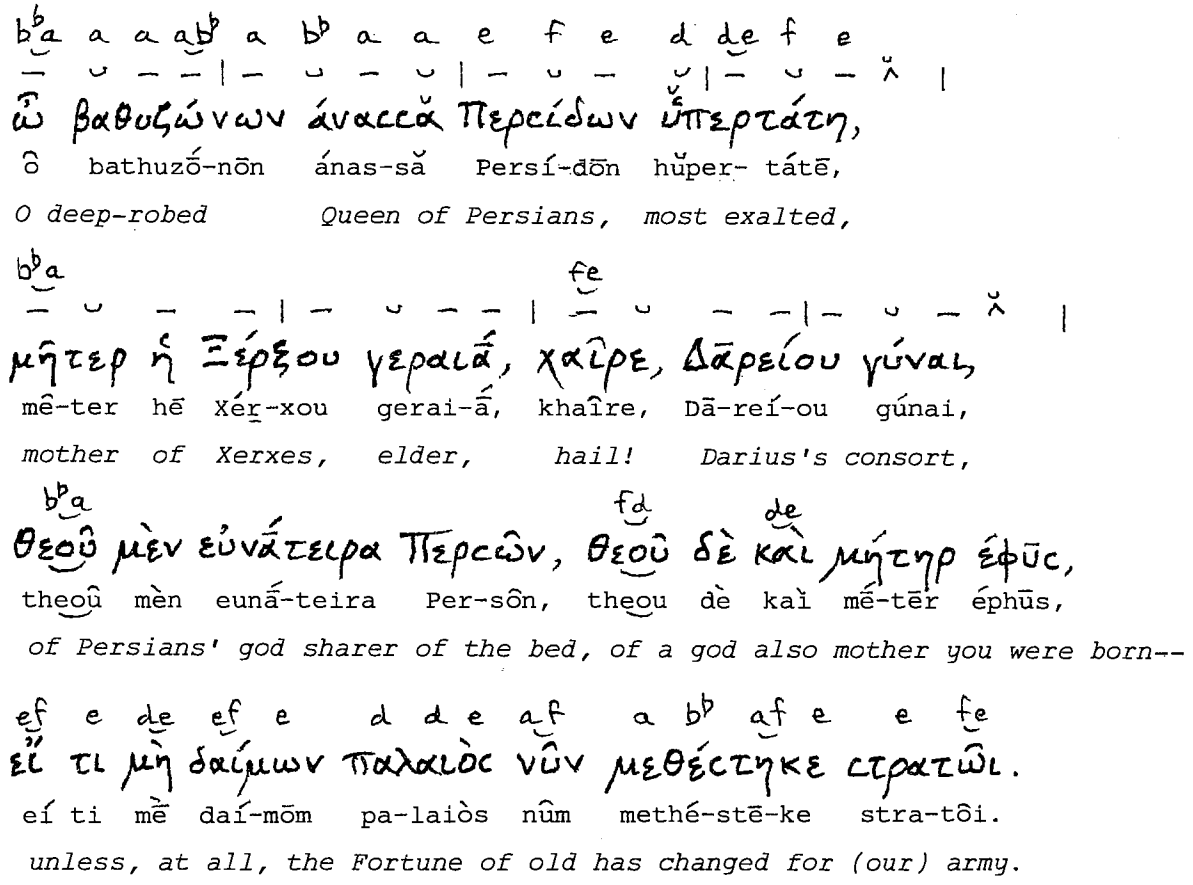
I know how, the dithyramb, with wine thunderstruck in my senses.

Performance notes: The fourth metron is completed rhythmically by the final one-unit rest (starred). Both -los and -nas at line-end are brevis in longo. The sign ˘Λ will be added, from here on, to the regular scansion signs to indicate a one-unit (short) rest; and ¯Λ will indicate (as it did in the ancient rhythmic notation) a long (two-unit) rest. By itself, Λ will continue to stand for a rest of indefinite length (above, p.9). Modal scale: IV, p.65.

Whether such lines were sung or spoken in the archaic period is probably an unanswerable question, but attention to both interpretations (as well as AQ's middle way), as practice, is useful.[15]

The name trochaic comes from the verb trekhein, "to run," and is usually thought of as a fast-moving meter of dialogue, as it is in its extended use by Aristophanes. It can have this effect in tragedy: Theseus, at his second entrance in Sophocles's Oedipus at Colonus, announces his hasty arrival in four lines of tetrameter (887-90), its sole appearance in the play. Tetrameter lines are, however, long-winded, and can even seem spacious, as in Aeschylus's employment of them in Persians to herald the entrance of the Persian Queen (below), and in her quite formal opening address (159-72); she then reverts to the more informal--to my ear--trimeter. (On the other hand, the ghost of Dareius, in a later episode, seems pressed for time in his tetrameter pronouncements and dialogue (697-99, 703-58).)[16]

The chorus halts its walking anapests (140-54) and, through its leader, greets the Queen in tetrameters (155-58):

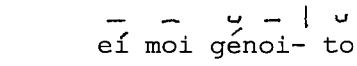


Performance notes: If you use the suggested melodic realization, continue the pattern of the first line in the following two. It seems possible that the rest at line-end could be either a short or a long--in other words, an anceps rest, for which we could use the sign ×̆. What is essential, however, is to maintain the rhythmic continuity and momentum from line to line, except where a clear rhetorical break, which could be measured or not, is called for. Mode: Dorian transposed.

The brief empty space produced by catalexis most often coincides, in tetrameters, with a syntactic break (since the considerable length of the line can easily contain a complete sentence or clause), as in the examples given here. More rarely, there will instead be enjambment, in which case a syllable will have to be prolonged to fill out the line's rhythm, or a space left without creating a break in continuity. (For an understanding of long runs of tetrameters, it will

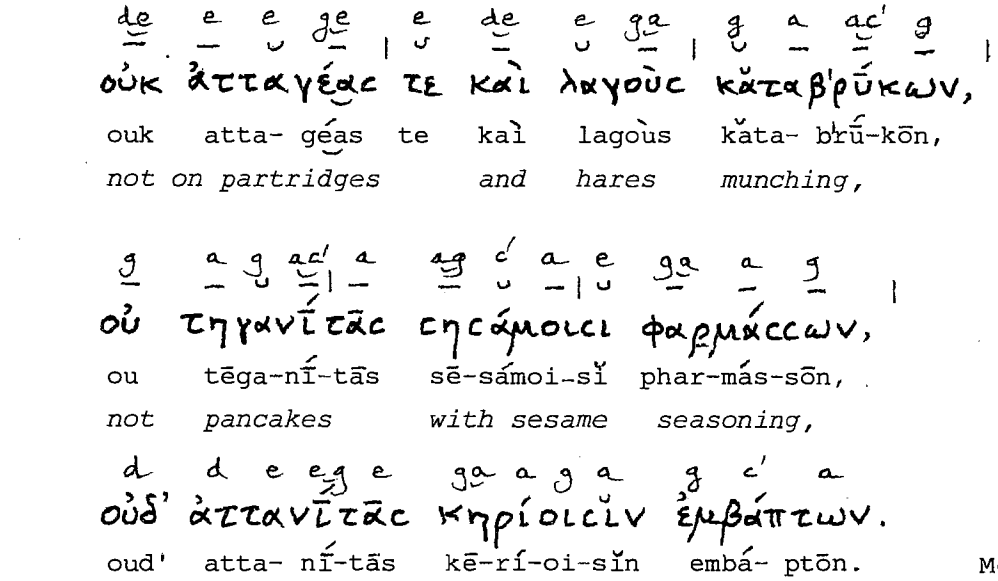
be helpful to consult Aristophanes: for example, Frogs 686-705/718-37, or Clouds 575-94/607-26. Resolution of long elements is quite common in Aristophanes's tetrameters, and occurs elsewhere.)

There is an iambic tetrameter catalectic also, less common than the trochaic, but used by archaic composers, and by Aristophanes as well, at times in relatively long sequences. The example here is a single line of Hippōnax (fr.119):



Aristophanes, again, provides unimpeachable material for practice; the long runs are indispensable for gaining confidence in continuity and rhythmic accuracy, along with correct prosody and orthoepy (pronunciation and enunciation).[17]

Finally, in our lengthy survey of some of the main, long-lived rhythmic resources of archaic poetry, we meet the entertaining choliambic (from khōlos, "lame") or scazōn ("limping") meters. The choliambos is a trimeter that ends with a kind of "bumping" effect of three longs, as in this example, again from the mid sixth-century composer Hippōnax (fr.26a), much of whose poetry--the little, that is, that we have--is choliambic:[18]



Modal scale: IV, p.65.

SUPPLEMENT: Solon: fr.36, ll.8-27 (continued from p.88)

d de e f#a a f# a f# ab a f#

πολλοὺς δ' Ἀθήνας πατρίδ' ἐς θεόκιτον
And many men to Athens, homeland established by the gods,

ἀνήγαγον πραθέντας, ἄλλον ἐκδίκως,
I brought back, men who had been sold, some illegally,

ἄλλον δικαίως, τοὺς δ' ἀναγκαίης ὑπὸ
others legally, and those who by necessity's

χρειοῦς φυγόντας, γλῶσσαν οὐκέτ' Ἀττικὴν
compulsion had fled, the language no longer of Attica

ἱέντας, ὡς ἂν πολλαχῆι πλανωμένους·
speaking, as may men who widely wander.

τοὺς δ' ἐνθάδ' αὐτοῦ δουλίην ἀεικέα
And for them who here in this place slavery's shame

ἔχοντας, ἤθη δεσποτέων τρομεομένους,
were suffering, by practices of their masters made to tremble,

ἐλευθέρους ἔθηκα. ταῦτα μὲν κράτει
freedom I established. These things by (my) power,

ὁμοῦ βίην τε καὶ δίκην ξυνάρμοσας
with force together with justice blended,

ἔρεξα, καὶ διῆλθον ὡς ὑπεσχόμην·
I did, and completed (them) as I promised.

θεσμοὺς δ' ὁμοίως τῶι κακῶι τε κἀγαθῶι
Laws similarly for the lower and upper classes,

εὐθεῖαν εἰς ἕκαστον ἁρμόσας δίκην
for each person putting together a straight justice--

ἔγραψα. κέντρον δ' ἄλλος ὡς ἐγὼ λαβών,
(these) I wrote. And if a goad by another had been taken up as I did,

κἄκοφράδης τε καὶ φιλοκτήμων ἀνήρ,
(by a man) of bad counsel and an avaricious man,

οὐκ ἂν κατέσχε δῆμον· εἰ γὰρ ἤθελον
he would not have held back the people. For if I had wanted

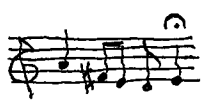
ἃ τοῖς ἐναντίοισιν ἤνδανεν τότε,
what to these opponents was pleasing at the time,

αὖτις δ' ἃ τοῖσιν οὕτεροι φρασαίατο,
and in turn what for them the others planned,

πολλῶν ἂν ἀνδρῶν ἥδ' ἐχηρώθη πόλις. (Λ)
of many men would have been bereft this city.

a a♭ a f♯
τῶν οὕνεκ' ἀλκὴμ πάντοθεμ ποιεόμενος
On this account a defence on every side I created,

e d e f♯e e f♯e e a b a f♯ f♯ e
ὡς ἐγ κυσὶμ πολλῆισιν ἐστράφην λύκος.
as among a dog-pack I wheeled about, (like) a wolf.



NOTES (Elegiac and Iambic Poetry)

1. Ovid confirms, in Amores 1.1.27-30, that the elegiac couplet has eleven feet (Musa per undenos emodulanda pedes, 30), thus foreclosing the possibility of an interpolated rest in the pentameter line. (Cf. GM, 46, and the Appendix below on Latin poetry.) The latter line is, in print, always indented; the rhythm of its second half is invariably – ⏑⏑ – ⏑⏑ –, the last word often being a disyllable. The couplet is frequently--and in Latin elegiacs regularly--a complete sentence. Some long vowels have been marked here for convenience of scansion. The Greek Anthology: 12 books in five volumes, transl. by W.R. Paton, LCL 1916-18. The couplet here is from Book 10 (no.2, lines 3-4). (Most of the Anthology's poems are elegiacs.) See OCD_3, "Elegiac Poetry, Greek."

2. Greek Elegiac Poetry, ed. and transl. by D. Gerber, LCL 1999. Mimnermus's poetry is particularly fine, though little survives; see also the darker fr.2, and fr.12, on the sun's journey.

3. I continue here my regular practice of assimilating nasal semivowels and underlining the semivowel in semivocalic diphthongs (above, p.16), as well as marking the rough breathing (h) in compounds (p.16, 41).

4. Aulos accompaniment: "Plutarch" 1134a, GMW 1, 213. Cheironomy: Manniche (above, p.80, n.21), with many pictorial representations; unfortunately such evidence seems scant or altogether lacking in the case of Greece. (Illus., p.100, below.)

5. "Introduction. Greek Iambic Poetry from the Seventh to the Fifth Centuries B.C.," by D. Gerber, in Greek Iambic Poetry, ed. and transl. by D. Gerber, LCL 1999. See also OCD_3, "Iambic Poetry, Greek."

6. A reminder may be in order that anceps is different from brevis in longo (above p.8): in the example above, the last syllable is short (mégă), but, as brevis in longo, takes the time of a long, the remainder of the duration of the long being silent (in notation, ♩ = ♩𝄾).

7. Epistulae 2.3.255-57 Shackleton Bailey ("Ars poetica"): tardior ut paulo graviorque veniret ad auris,/spondeos stabilis in iura paterna recepit/commodus et patiens ... (In order that it might strike the ear as a little slower and weightier, [the iamb] adopted the solid spondees with parental rights, being agreeable and tolerant ...).

Horace briefly lists in earlier lines (73-86, 92) the main poetic meters and the compositions associated with them. Of these, the iambic trimeter uniquely requires a considerably extended explanation and description, excerpted above. (I myself have most likely spent more time on iambics than on any other "stock" meter.) Indeed, he admits to learning how to distinguish correct rhythms (probably of iambic trimeter) both by ear and by finger count (274: legitimumque sonum digitis callemus et aure), a method I rely on.

It has been suggested in modern times that the trimeter's metra are all equal in time-length, the spondee | ♩ ♩ | being shortened to the duration of an iamb | ♪♩ |. The trimeter line would then proceed by steady, equal beats, and our example line from Archilochus would, in modern notation, have the rhythm | ♩ ♩ ♪♩ | ♩ ♩ ♪♩ | ♪♩ ♪♩ |. (See, for example, AGM, 137-8; | ♩ ♩ ♪♩ | can be notated alternatively | 𝅗𝅥. 𝅗𝅥. ♪♩ |.) This is certainly a false interpretation, flatly contradicted by Horace. It is musically trivial and uninteresting, but as an effect it may have found some use in the music of theatrical comedy; a possible example will be examined in a later chapter.

(The spondaic foot (spondeios pous) is named from the solemn libations (spondai) that accompanied the making of a truce or treaty.)

8. "People ... say that Archilochus introduced the practice of having some iambics spoken with instrumental accompaniment and others sung," "Plutarch" 1141a (transl. Barker), GMW 1, 234. The sentence continues, "the tragic poets employed this procedure later[.]" (... tôn iambeíōn tò tà mèn légesthai parà tẽn kroûsin, tà dè aídesthai, Arkhílokón phasi katadeîxai, eît' houtō khrẽsasthai toùs tragikoùs poiētás[.]) Cf. AGM, 40.

9. On Solon: Plutarch, Parallel Lives, vol.1, transl. by B. Perrin, LCL 1914 (the LCL "Lives" translations are considered inadequate today); Diogenes Laertius, Lives of the Eminent Philosophers, vol.1, transl. by R.D. Hicks, LCL 1925/1972.

10. There are also more than a hundred lines of trimeter from the mid seventh-century poet Semonides (Greek Iambic Poetry, 298-314), the character of which--particularly on the various types of wives--I find simply too distasteful, though such were no doubt popular in their day at men's drinking parties. Solon's iambics are with his other poetry, in Greek Elegiac Poetry, p.156ff.

11. Poetics 4.18-19, 1449 (not in GMW): "The iambic is indeed the most conversational of meters, and the proof is that in talking to each other we most often use iambic lines ...," transl. W.H. Fyfe, LCL 1927, p.18-19. (málista gàr lektikòn tôn métrōn tò iambeîón estin; sēmeîon de toútou, pleîsta gàr iambeîa légomen en têi dialéktōi têi pròs allélous[.])

+ In comedy, in addition to frequent resolution (see below), the second or fourth iamb of the trimeter is sometimes replaced by an anapest (⏑⏑—), giving the metron |×—⏑⏑—| instead of the normal |×—⏑—|. Cf. GM, 88-9, IGM, 27-8.

12. De Musica 6.3ff, GMW 2, 404 (with Barker's caution, note 25, which I find excessively sceptical). sunekhès mèn oûn esti phōné, hē tás te anhéseis kaì tàs epitáseis lelēthótos ... diastēmatikè dè, hē tàs mèn táseis phaneràs ékhousa; tà dè toútōn métra lelēthóta. mésē dé, hē ex amphoîn sunkeiménē. ... mésē dé, hêi tàs tôn poiēmátōn anagnóseis poioúmetha.

In the Enchiridion, Nicomachus, after differentiating speech and song, adds, "Anyone who, while conversing, or recounting something, or reading aloud, makes clear distinctions between the magnitudes associated with each note, dividing and shifting the vocal sound from one to the next, is said not to be speaking or reading, but chanting" (239.10-16) transl. Barker, GMW 2, 249. (ei gár tis è dialegómenos, è apologoúmenós tini, è anaginóskōn ge, ékdēla metaxù kat' hékaston phthóngon poieî ta megéthē, dihistánōn kaì metabállōn tèn phōnèn ap' állou eis állon, oukéti légein ho toioûtos, oudè anaginóskein, allà meleázein légetai.) Cf. AGM, 40.

13. Including fragments of poetry by Archilochus and Solon. Archaic trochaic meter: GM, 39-42; IGM, 28-9.

14. The distinction in practice between meter and rhythm will be treated more fully in a later chapter; see also the Appendix, "Rhythmics, Metrics," below. Note that catalexis generally suggests the possible presence of a metrical rest at line-end.

West presents his metrical schemata (GM, 40) for trimeter and tetrameter in parallel, writing that "The only essential difference between the two is that the tetrameter has three extra positions at the beginning." These are as follows, with the resolutions of longs and indications of caesura removed for clarity:

trimeter	× – ⏑ – × – ⏑ – × – ⏑ – ‖
tetrameter	– ⏑ – × – ⏑ – × – ⏑ – × – ⏑ – ‖

This is the <u>metrician</u>'s analysis. But the genuinely essential difference is found in the <u>rhythmicist</u>'s analysis, which describes what happens in actual performance, and which I believe is the correct interpretation, a difference that could hardly be more fundamental: that is, the filling-out of the (catalectic) trochaic line with a rest, which is symbolically,

– ⏑ – × – ⏑ – × – ⏑ – × – ⏑ – Λ̆ ‖

The trimeter has no such rest; the final long position of a line is followed immediately by the first element of the next. In the tetrameter, a unit rest intervenes. In AGM, 139-40 (cf.151-2), West acknowledges the presence of a line-end rest in the tetrameter without at all clarifying the distinction between meter and rhythm.

15. Tetrameters in Aristophanes occur also in lyric contexts. Cf. Parker, <u>Songs of Aristophanes</u> (following note), 36-7.

16. An excellent summary of the use of the trochaic meter, including tetrameter, in ancient Greek compositions, is provided by L.P.E. Parker in her superb study, <u>The Songs of Aristophanes</u> (Oxford: Clarendon Press, 1997), p.35-40. The book's introductory overview of Greek meter, in which Parker is one of the outstanding authorities, is highly recommended to the advanced student. (Note that the book is lacking a general index; Parker's analyses are those of a metricist.)

17. Iambic tetrameter catalectic: GM, 42; IGM, 29; in Old Comedy (Aristophanes et al.), GM, 92-3; cf. Parker, Songs (preceding note), 29.

18. Catullus and Martial composed Latin imitations. The most famous choliambic poem is probably Catullus 8, which begins, Mĭser Catúlle, dēsinās ĭneptīre ... ("Poor Catullus, stop the foolishness ...").

Twin reed(?)-pipe player and cheironomist. Detail from the relief in the tomb of Niankhkhnum and Khnumhotep at Saqqara; 5th Dynasty (ca. 2200 BCE). Manniche, p. 30 (above, p. 80 n. 21).

8. LYRIC COMPOSITION 1: Strophic Song

No less ancient, certainly, than unilinear compositions are those composed in strophes or stanzas that repeat their rhythmic structures. The Rg Veda, for example, some thousands of years old, is strophic, with a variety of strophes of different lengths and meters.[1] This compositional form is of course still very much alive today in the verse-repetitions of songs and hymns.

Of the earliest Greek strophic compositions that have come down to us very little remains. There are a few strophes of Archilochus, for example, usually referred to as "Epodes," that give us some idea of the rhythmic combinations his strophes employed. The strophic forms of Sappho and Alcaeus (late 7th century) are deservedly renowned, even though (again) too little has survived.[2]

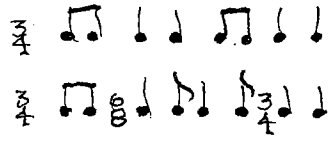
Another celebrated composer of strophic song was Anacreon, court composer to the tyrant Polycrates of Samos (mid 6th century). His poetry was characterized generally as "convivial," even "erotic" (by Cicero, for example, on the subject of erōs); Horace wrote that "neither has time destroyed Anacreon's playfulness."[3] The ionic metron (∪∪ – –) was a favorite of his; he used it "straight," and especially in combination with its anaclastic (anaklastikos, "broken-up") variation, where the central short and long elements of the normal ionic metron are exchanged, making from the normal ionic pair

∪∪ – – | ∪∪ – –

the anaclastic:

∪∪ – ∪– ∪ – –

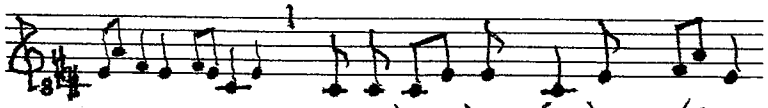
(in musical notation);



these were frequently used in alternation, giving an effect like the play of 3/4 and 6/8 meters in, for example, some Iberian folk music.

The following two-stanza poem, fr.395 (surviving complete? perhaps performed with further, improvised stanzas?), uses the anaclastic ionic as the main rhythm, shifting to pure ionic in the next-to-last line. Note that the local melody follows the word-accents faithfully, while the melodic shape of phrases repeats identifiably for corresponding lines of the strophes (lines 2 and 8, for example), with particular attention to the recognizable repetition of cadential figures in corresponding lines. This is a fundamental principle of my reconstructions of lyric melody, and will be treated at some length later.[4]

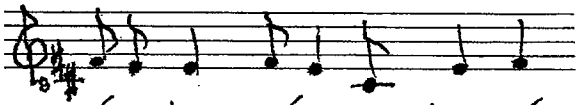
anabolē



πολιοὶ μὲν ἡμῖν ἤδη

polioì mèn hēmìn ēdē

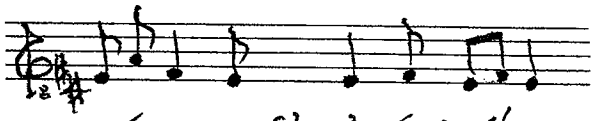
Gray already my



κρόταφοι κάρη τε λευκόν,

krótaphoi kárē te leukón̲,

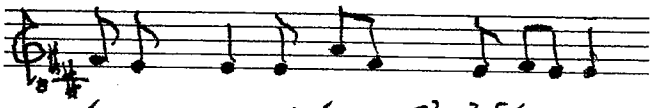
temples, and head white,



χαρίεσσα δ' οὐκέτ' ἥβη

kharíessa d' ouk- ét' hḗbē

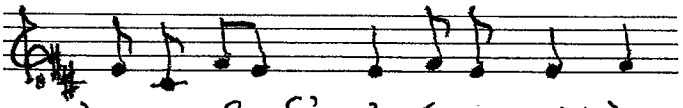
the grace no longer of youth



πάρα, γηραλέοι δ' ὀδόντες,

pára, gēra- léo͡i d' odón̲- tes,

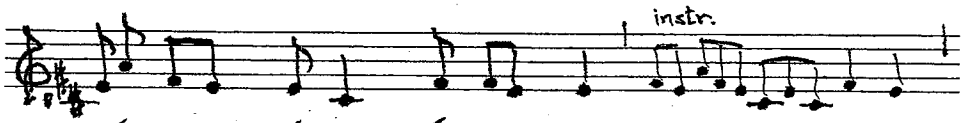
present, and old the teeth--



γλυκεροῦ δ' οὐκέτι πολλὸς

gluke- roû d' oukéti pollòs

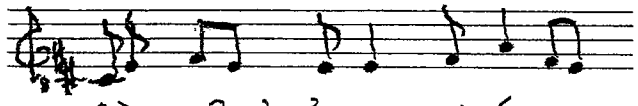
the sweetness no longer of a long

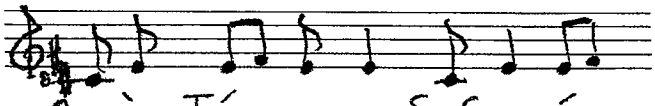


βιότου χρόνος λέλειπται.

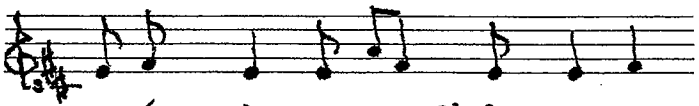
biótou khrónos léleiptai.

lifetime remains.

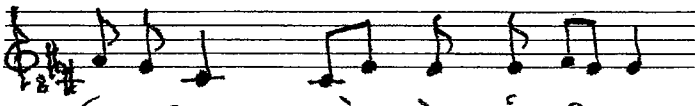

διὰ ταῦτ' ἀναστάλυξω
And so I weep

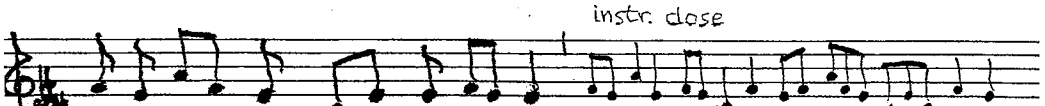

θαμὰ Τάρταρον δεδοικὼς·
often, of Tartarus fearful.


Ἄιδεω γάρ ἐστι δεινὸς
For terrible is Hades's


μυχός, ἀργαλῆ δ' ἐς αὐτὸϝ
alcove, and grievous, to it,

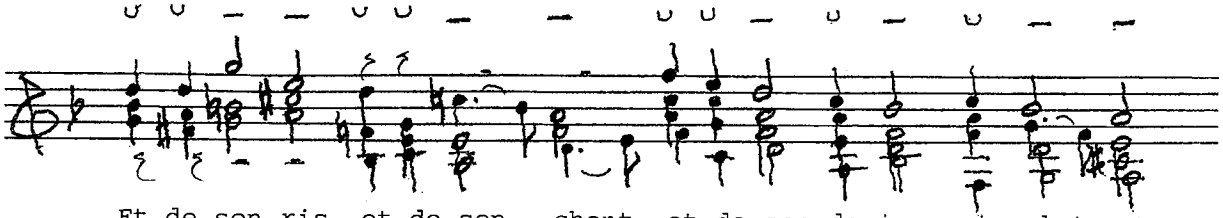
10


κάτοδος· καὶ γὰρ ἑτοῖμον
is the road down. And certain it is


instr. close
καταβάντι μὴ ἀναβῆναι.
that he who descends does not come back up.

Performance notes: Enjambment as noted; instrumental anabolē, etc. suggested (for songs of this kind, the mbira gives an excellent accompaniment). Modal scale: V, p.65, with tuning sequence (which must obviously include the unused b): a - e - (b) - f# - c#.[5]

Anacreon's popularity was such that he had countless later imitators, whose surviving compositions make up what is called the Anacreontea (GL 2, 162-247). The French revival of ancient quantitative meters in the Renaissance, known as vers mesuré, seems to have drawn particularly on Anacreon, especially in the beautiful part-songs of Claude le Jeune (1528-1602). The following brief example uses the Anacreontic ionic patterns, an evident favorite of le Jeune.[6]



Better represented in the remains of Anacreon's work is the glyconic line (or metron), a rhythmic configuration of the greatest importance (and, apparently, of great age) that amounts to a sort of rhythmic principle, constantly varied, and fundamental to much of the poetry that lies before us. It is a formula whose sound and feel it will be useful to memorize:

is the basic shape; a helpful mnemonic is a line from Simonides (fr.512):

πῖνε, πῖν' ἐπὶ συμφοραῖς
pîne, pîn' epì sumphoraîs
Drink, drink for good fortune![7]

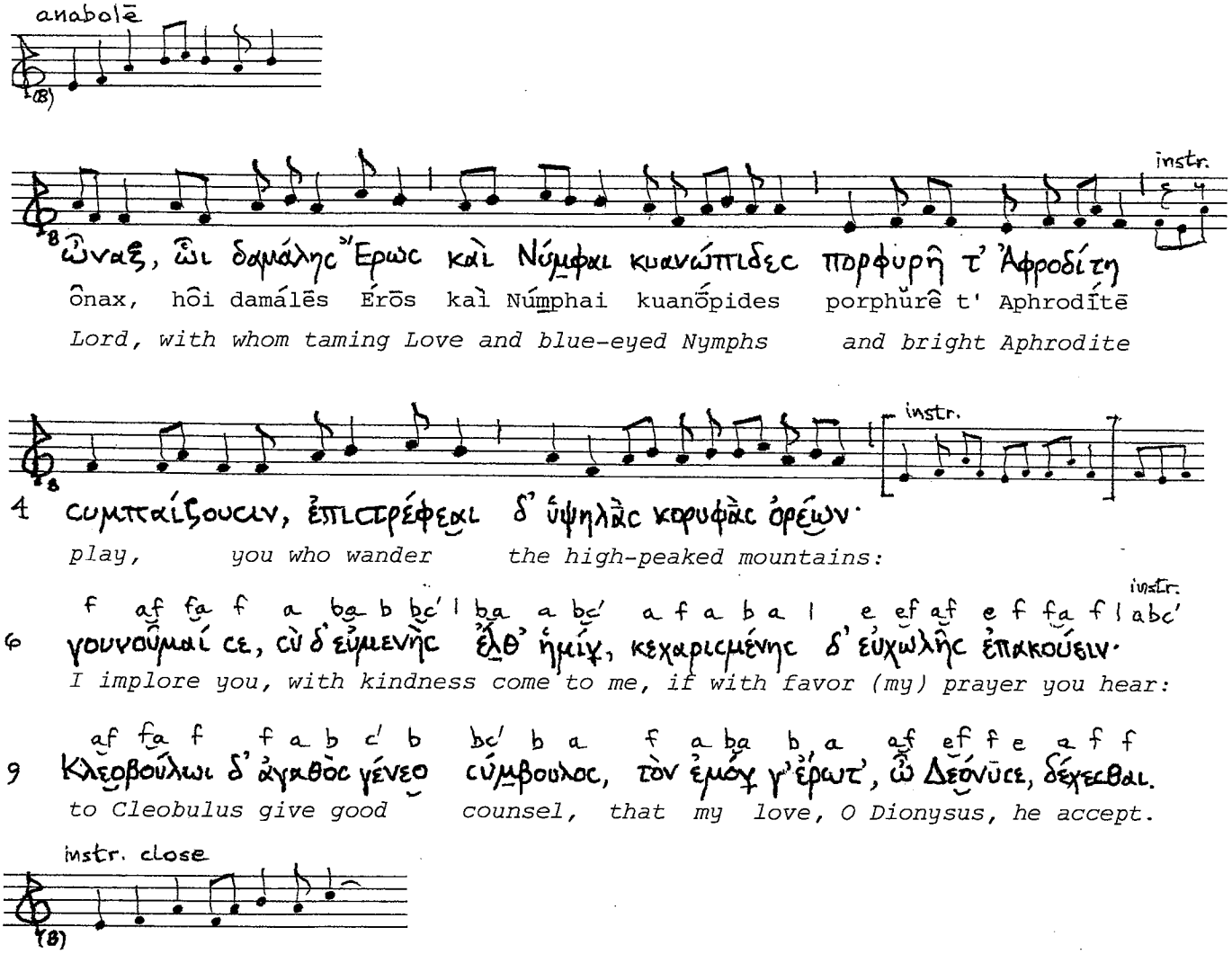
This basic rhythm, the second syllable of which is often long, is recognized as the "core" rhythm of what is categorized as Aeolic poetry.

The glyconics of Anacreon (who was actually an Ionian) are uncomplicated;[8] the variable second syllable is regularly a long. In the following example,

Anacreon fr.357, the strophe consists of two or four glyconic lines followed by a catalectic glyconic (called a pherecratean, a name useful to recognize), short by one syllable, creating a cadence:

– x – ∪ ∪ – – (x̄)

As with the catalectic trochaic and iambic lines met earlier, the "missing" syllable implies a rest that completes the rhythm, line, strophe (in this case) and thought as a musical and rhetorical articulation.[9]



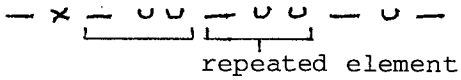
Performance notes: I have emended the text of line 5, exchanging the words oréōn and koruphas in order to change a metric irregularity, in the Loeb edition, into glyconic meter. This is the only authority I claim for the emendation.[10] The

poem has either three strophes, of 3, 5 and 3 lines, as in Loeb, or, with my emendation and the instrumental line in brackets, four strophes of 3 glyconic lines, the third of each catalectic. (The bracketed music may be omitted.) The mode is my high Lydian harmonia, p.56 above, which can be tuned to give one of two very different sounds (and affects) to the mode, following either the regular fourths/fifths tuning of the Dorian, p.62 above, or the pure major third tuning (2) on the same page; the latter is recommended for this poem.

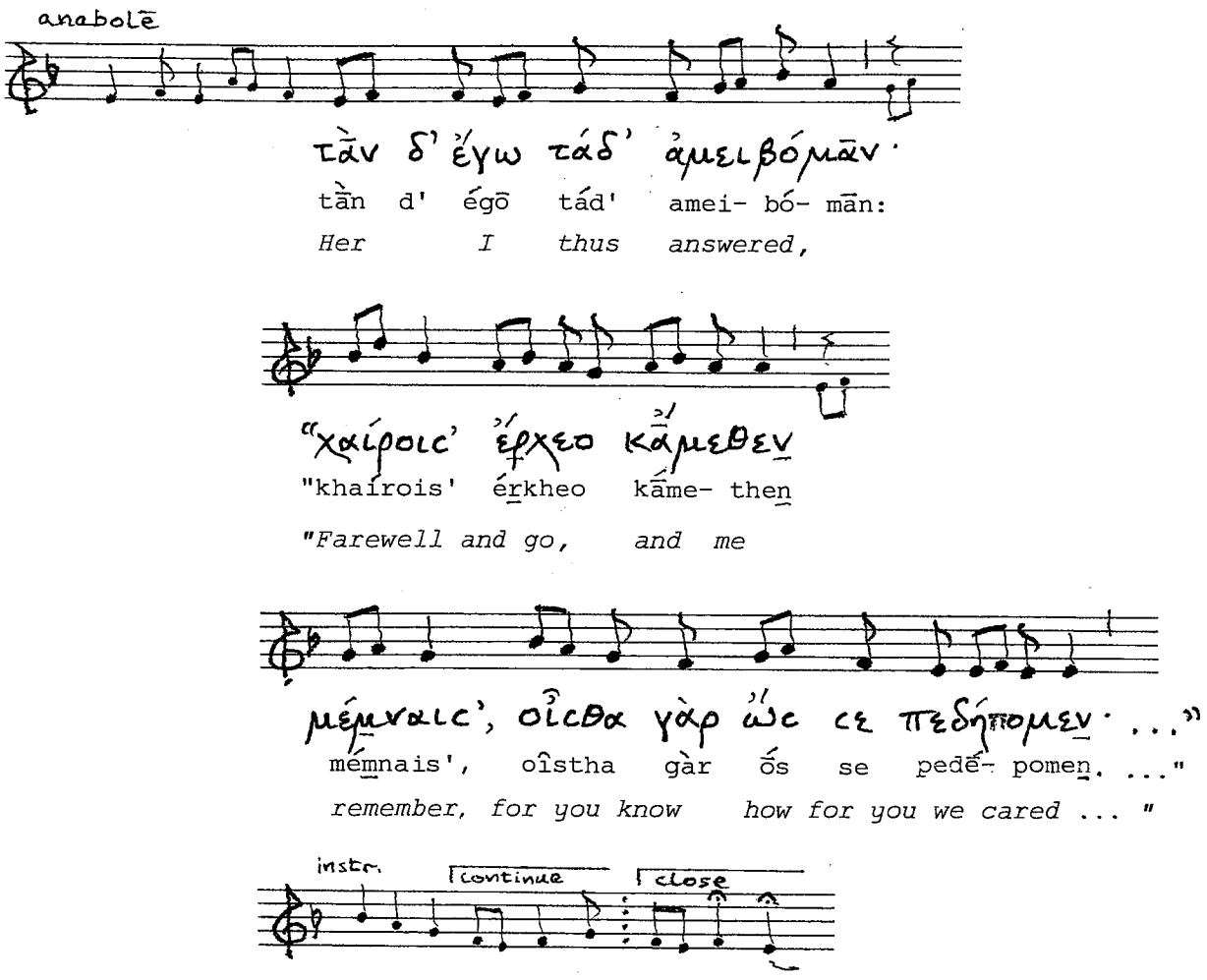
Lyric compositions are nominally those to be sung to the lyre, although other accompanying instruments were used. Lyric songs were performed chorally as well as by solo voice; the composer's intent is not always clear. We think of more intimate lyric poetry as being solo song, but Pindar makes it explicit that a choral ode could on occasion be sung by a single voice.[11] Lyric poetry is normally composed in strophes. Among the most celebrated lyric composers of Greek antiquity were Sappho and Alcaeus, both of whom lived on the island of Lesbos in the late seventh and early sixth centuries.[12] So far, the poetry we have encountered has been in Ionic (Eastern) or Ionic-influenced Greek. Sappho and Alcaeus, however, composed in what has been called a literary Aeolic dialect, which differs from Ionic in some vocabulary, grammatical inflections, and (like Doric Greek), often has ā for Attic-Ionic ē.[13]

Both these composers' names were perpetuated in part through the well known, eponymous stanzas that they probably created, the Sapphic and the Alcaic, with their fixed (and closely related) rhythmic structures. The former is presented in Appendix v below; an example of the latter follows directly.

Sappho seems to have composed often in glyconic rhythms, and to have used the glyconic prototype to create longer lines by expansion, as we see in the following example, fr.94, where two lines of simple glyconics are followed by a line extended by the repetition of a dactyl, — ∪∪, a technique commonly used by composers to create new (or varied) rhythmic structures.[14]



The musical reconstruction here is of lines 6-8 of fr.94 (GL 1, 116).



Performance notes: Aeolic ā in tān, ameibómān, line 6. The mode here is my "Damonian" mixolydian (above, p.68-9 n.13 and Appendix v, below). It is best tuned with the fourth/fifth sequence g - d - a - e, and pure (5:4) major thirds b♭- d' and f- a. (All lyre strings except mesē and nētē must be retuned from the Dorian.)

There have been more than a few methods invented, in literate cultures, for the notation of musical pitches and rhythms. The ancient Greeks had two separate but similar sets of symbols for recording melodies, from the fourth century BCE at the earliest.[15] The musical reconstructions so far have used mostly Western "staff" notation, convenient for the many who can read it, but needlessly encumbered and inefficient for our purposes here; as a shorthand notation, I have in earlier ex-

amples also used letter-names from the standard Western gamut of pitches. (The rhythms in our repertoire are of course established by the syllable-lengths of the verbal texts, with rests introduced conjecturally.)

A logical and legible notation for melody assigns numbers to the degrees of the scale, and is similar to the Western solfège syllables (do, re, mi, fa, sol, la, si (or ti)) and its Indian counterpart (sa, ri (or re), ga, ma, pa, dha, ni). Usually called cipher or numeral notation, it is widely used in writing down, for example, the Indonesian gamelan repertoires.[16]

In my use of cipher notation here, the number 1 is assigned to the tonic of a nominally heptatonic scale; thus the diatonic Dorian octave:

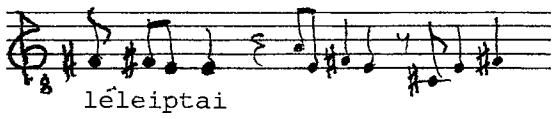
e	f	g	a	b	c'	d'	e'
1	2	3	4	5	6	7	$\dot{1}$.

Scales with fewer than seven tones pretend to be subsets of the heptatonic octave, so that the pentatonic Dorian scale (1), p.55, is $\dot{7}$ 1 2 4 5 6 $\dot{1}$ of the above scale, and (with 1 still as e) my pentatonic Phrygian (5), p.59, is $\dot{7}$ 1 3 4 5 7 $\dot{1}$. The subscript and superscript dots show the octaves below and above the central octave, respectively. It will be obvious that the pitches (and, here, the tuning of the lyre's strings) to which the numbers are assigned must be indicated.

The rhythm of sung texts, as just mentioned, is that of the syllabic quantities, but in order to represent the purely instrumental passages in the reconstructions in cipher notation, rhythmic signs must be introduced; the rules for these are as follows:

1. a number by itself is long (quarter note);
2. a number with a subscript line (e.g., 2, 3 5) is short (eighth note);
3. a long rest is indicated by a dot • (which can be accumulated for longer measured rests); and
4. a short rest is indicated by an underlined dot $\underline{\bullet}$.

An example of the application of these rules (modified from Anacreon, p.102 above, line 6) is the following.



c♯	e	f♯	a										
$\dot{6}$	1	2	4	2	$\widehat{21}$	1	•	41	2	1	•$\dot{6}$	1	2

λέλειπται·

Sappho's τὰν δ' ἔγω (above) will appear as follows, faithfully transcribed into cipher notation.

e f g a b♭ d'
1 2 3 4 5 7

1 2 1 43 2 12 2 12 3 2 34 5 4 34
τὰν δ' ἔγω τάδ' ἀμειβόμαν·

57 5 45 43 45 4 4 12
"χαίροις' ἔρχεο κἀμεθεν

34 3 54 3 2 34 2 1 12 1 1
μέμναις', οἶσθα γὰρ ὤς σε πεδήπομεν·..."

continue close
5 4 3 21 2 3 | 21 2 1

The ten extant strophes of this composition can be performed if in the lacunae the voice is simply silent, leaving the melody to the instrument.[17] For example, lines 9-11 (with somewhat different instrumental transitions):

1 2 12 3 4 34 5 4 1 2 54 345 4 •
αἰ δὲ μή, ἀλλά σ' ἔγω θέλω
If not, then you I would

57 5 4 54 3 4 54 12
ὄμναισαι . . . -αι
remind . . . .

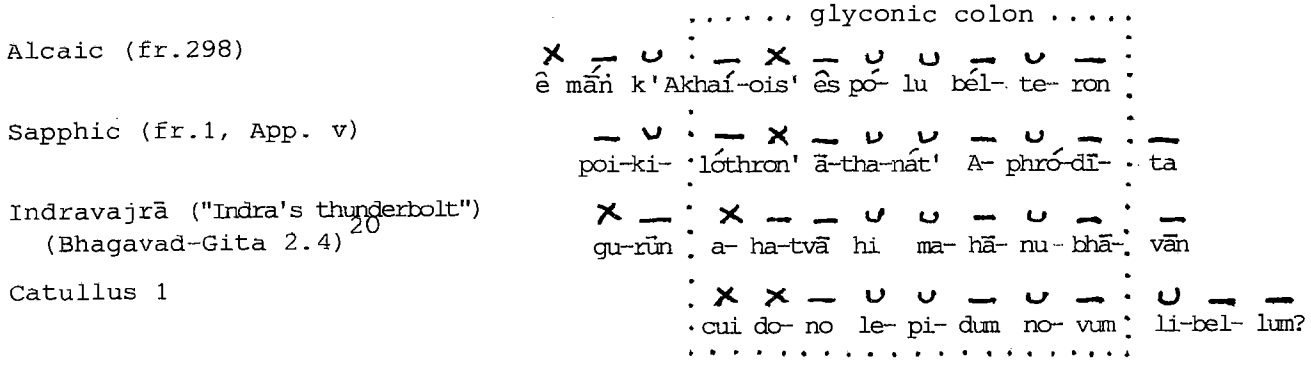
3 4 3 54 3 23 4 1 2 1 12 345 4 54 3 5434 1 2 1
. . . . . καὶ κάλ' ἐπάσχομεν.
. . . *and the good times we experienced.*

The basic compositional principle of the Sapphic and Alcaic stanzas is the syllable-count of the line, quite likely the most ancient poetic structural principle in the Indoeuropean languages, present in the Vedic hymns as well as in

Dante, Rimbaud and Mallarmé, and much Romance-language verse. It is entirely different from the later hexameter, the main principle of which is isochrony, where a line consists of a number of units that are equally spaced in time.[18]

Within a line whose number of syllables is fixed (isosyllabic), "stock" patterns of long and short (and anceps) positions are repeated. Suitable patterns are few, rather closely related, and often seen as built of smaller elements (some scholars believe the basic elements are but two, — ∪ — and — ∪ ∪ —[19]). For some reason eleven seems to be the most popular number of syllables for an isosyllabic line; hendecasyllabic constructions are common from the earliest Sanskrit verse to that of modern times.

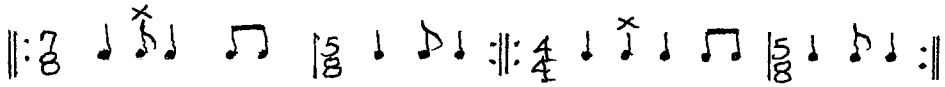
Without attempting to analyze closely their rhythmic structures (see Supplement A at chapter-end for comments on metrical analysis), I present below several different hendecasyllabic lines for comparison. Among the conspicuous features are the indifferent (anceps) syllables, which are confined to the first half of a line; the "anchoring" dactyl — ∪ ∪ (some analysts point instead to a choriamb — ∪ ∪ —); and the cadential figure, the most narrowly restricted part of the line rhythmically--here — ∪ — or — ∪ — —. (The much wider compositional importance of the latter of these will become evident presently.) It is perhaps worth pointing out the position in these lines of the principal caesura (an aspect of the line I have tended to avoid), which composers' ears have most often insisted should divide the dactyl at midpoint (i.e., the long of the dactyl is usually a word-ending syllable). Composers (in all three languages below) tend to position caesuras to allow word-rhythms to overlap metrical rhythmic patterns, as in this case (compare the similar treatment of Homer, above, p.29-30), rather than to coincide with them. Of great importance for later music, among the many rhythmic patterns the ear will pick up in the lines below, is the glyconic and its varied expansions.



This seems a suitable point to offer a reminder of the differences between our bisaes of perception and those of the Greeks--their ways of perception, or aisthēsis. The glyconic formula provides simple and typically Greek material. No ancient Greek would have internalized this rhythmic pattern from its symbolic, visual representation, as we are conditioned to do, but rather through the ear, sounded as rhythmic syllables, clapped or tapped, sung or spoken as a verbal text.

Parallel to the aural experience of rhythm is the kinesthetic ("pertaining to the sensation of motion"), so important to the Greeks, the expression of rhythm in bodily movement. I advocate clapping rhythmic figures as a (limited) kinesthetic experience of them; the Greeks clearly favored involving the entire body in rhythmic expression, allowing the kinetic memory of the body, along with the aural memory in the mind, to retain the imprint of the composed rhythms.[21]

How does one "dance" the glyconic rhythm? My suggestions are utterly basic, limited by my own shortcomings (though I have found the little "floor work" I have done to be an indispensable part of rhythmic comprehension). One can begin with the simplest steps, forward and backward, side to side, one step for each long or short element (including the possibility of a single "long" step for the double short, or even three shorts)--and here again we must rely on visual explanation:

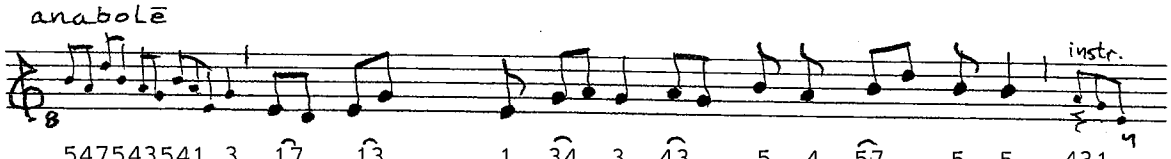


L R L R L R L R (same step patterns,
or L R L R - L R L but with long anceps)
then R L R L - R L R.[22]

In executing simpler or more complex steps to such figures, the Greek performer had to recognize a variable (anceps) position in order to execute a quicker or longer step in that place as necessary. (The anceps length must of course be at least briefly anticipated, which is why, as already noted, dance required the knowledge of the words being expressed in movement.)

Anyone continuing on to the rhythmic intricacies of the music of the next and final chapter will, I believe, find it a considerable advantage to bear in mind constantly the Greek aisthēseis of sound and movement.

Musical reconstruction, lines 4-11, Alcaeus fr.298 (GL 1, 338).



547543541 3 1̂7 1̂3 1 3̂4 3 4̂3 5 4 5̂7 5 5 431

ἦ μάγ κ' Ἀχαίοις ἦς πόλυ βέλτερον

ê mán k' Akhaíois ês pólu bél-te-ron

In truth, for the Achaeans it would have been much better

3 4̂3 4 5 7 5 4 3 4 3 1 5431

αἰ τὸν θεοβλάβεντα κατέκταν̣ον· 5

ai tòn theo-bláben-ta katé-kta-non;

if the violator of the gods had been killed:

3̂4 3 1 3 4 3 4 4̂5 4 534

οὕτω κε παρπλέοντες Αἰγαις

oú-tō ke par- plé-on-tes Aí-gais

thus in sailing past Aegae

(ē' ī) 5 7 1̇ 5 7 4 5̂4 1 3 1 54 7 5 43 541 3 (1̂)

πρᾱϋτέρᾱς ἐτυχον θαλάσσᾱς·

prā-ü-té-rās étukhon thalás-sās;

quieter would they have found the sea.

1 7̣ 3 1 3̂4 3 4 5 4 7 5 431

ἀλλ' ἃ μὲν ἐν ναύωι Πριάμω παῖς

But in the temple Priam's daughter

ἄγαλμ' Ἀθᾱνάᾱς πολυαΐδος

the statue of Athena, giver of many spoils,

ἁμπῆχ' ἐπαπτένᾱ γενήω, 10

was embracing, grasping the chin,

δυσμένεες δὲ πόλη' ἔπηπον

while the enemy the city were harassing,

Performance notes: I have left open much of this composition for completion, either following my melody, or creating a different one for the entire poem. (The text of the incomplete first stanza is "very uncertain" (Campbell, GL 1, p.341) and has been omitted here; three further stanzas and part of a fourth are given in Supplement C, p.128, below.) To help exemplify my reconstruction procedure of establishing identical-sounding (if not exactly identical) cadential figures for each line, I give below, for comparison, possible final cadences for each strophe (lines 7, 11, 15, 19 and 23). The mode here is my pentatonic Phrygian I on p.65, above.

7 4 $\hat{5}$4 1 3 1
ἔτυχον θαλάσσας· 7
they had found the sea

5 7 4$\hat{5}$ 4 3$\hat{1}$ 1
δὲ πόλη' ἔπη- πον 11
the city they attacked

7 4 $\hat{5}$4 1 3$\hat{1}$ 1
πέδιον κατῆ- χε· 15
the plain it filled

5 7 4$\hat{5}$ 4 3$\hat{1}$ 1
μακάρων πέφῡκε· 19
of the blessed (gods) is

5 7 4$\hat{5}$ 4 3$\hat{1}$ 1
πολέμω δότειραν 23
of war giver

(7 4 54 1 3 1) 27

The first two lines of the Alcaic stanza are rhythmically identical (chart above, p.110); the third and fourth clearly derive their rhythms from the first: line three has a similar opening, but its second half echoes that opening inconclusively, x – ∪ – x – ∪ – –. The fourth line concludes solidly with the familiar cadence – ∪ – –, but here this figure is joined to the two preceding dactyls (no anceps syllables in this line): – ∪∪ – ∪∪ – ∪ – –. We have seen this figure before as the "long" form of the trochaic metron – ∪ – x (p.90, above), but here it has assumed the contextually different role of the epitrite, or epitritic metron (with a unit-count of seven in a ratio of four to three, the epitritic ratio), as a straightforward expression of the so-called dactylo-epitrite meter of our final strophic composition, Bacchylides's victory ode (probably before ca.495) for Alexander, heir to the Macedonian throne.

Musical reconstruction: Bacchylides fr.20B (GL 4, 276)[23]

7 1 2 4 5 6 1
d e f a b c'e'

1272124245

6 5 5 6 5 5 4 5 4 5 4 4 2 1 2 1
ὦ βάρβιτε, μηκέτι πάσσαλον φυλάσσων
ô bár-bi-te, mē-ké-ti pás-sa- lom phulás- sōn
O lyre, no longer to your peg keep,

2 4 2 1 7 1 1 2 4 2 1 2 1 1 421
ἑπτάτονον λιγυρὰν κάππαυε γᾶρυν·
hepta-tó- non li-gu- rān̄ káp- pau- e gâ- run;
(the) seven-toned clarity withholding (of your) voice:

2 1 2 1 2 4 5 4 5 6 6 1 6 5 4 5 6 5 4
δεῦρ' ἐς ἐμὰς χέρας· ὁρμαίνω τι πέμπειν
deûr' es e- mās khé-ras: hor- maí-nō ti pém- pein
come to my hands! I am eager to send

2 4 2 1 2 4 2 4 5 5 6 4 1 1 2 1 24124 5 4
χρύσεον Μουσᾶν Ἀλεξάνδρωι πτερόν
khrū́se-om Mou-sân A- le-xán- drōi pte-rón
to Alexander a golden wing of the Muses

καὶ συμποσίαισιν ἄγαλμ' ἐν εἰκάδεσσιν, 5
and for banquets an ornament at month-end,

εὖτε νέων ἁπαλὸν γλυκεῖ' ἀνάγκα
when for (men) young and tender a sweet compulsion

6 1 6 5
σευομενᾶν κυλίκων θάλπηισι θυμόν,
of hastening cups warms the spirit,

Κύπριδός τ' ἐλπὶς διαθύσσηι φρένας
and the expectation of Aphrodite makes hearts flutter

ἀμμειγνυμέναι Διονυσίοισι δώροις·
(as it) mingles with Dionysius's gifts:

ἀνδράσι δ' ὑψοτάτω πέμπει μερίμνας·
for men to the heights it sends the thoughts;

αὐτίκα μὲμ πολίων κράδεμνα λύει,
at once of cities the battlements he destroys,

πᾶσι δ' ἀνθρώποις μοναρχήσειν δοκεῖ·
and over all people to be going to rule he expects;

χρυσῶι δ' ἐλέφαντί τε μαρμαίρουσιν οἶκοι,
with gold and ivory gleaming is (his) house,

πυρφόροι δὲ κατ' αἰγλάεντα πόντον
and wheat-laden, over a brilliant sea

νᾶες ἄγουσιν ἀπ' Αἰγύπτου μέγιστον
ships bring from Egypt the greatest

πλοῦτον· ὡς πίνοντος ὁρμαίνει κέαρ.
wealth -- so, of the drinker, stirs the heart.

ὦ παῖ μεγαλοκλεὲς ὑψαυχέος Ἀμύντα,
O son great-famed of high-vaunting Amyntas,

– ∪ εουπ ∪∪ ον x – ∪ – –
. . .

– ∪ λάχον· τί γὰρ ἀνθρώποισι μεῖζον
they achieved (?); for what is for men greater

κέρδος ἢ θυμῶι χαρίζεσθαι καλά ...
gain than the heart's gratification from fine deeds ...?

Performance notes: Anceps in lines 1-3 of strophe, fifth position from line-end, between dactyls and epitrite (called by some a "link" syllable). Necessary enjambment 15-16, 19-20 seems to rule out a rest between lines 3-4 of the strophe. κάππαυε (2) is a contraction of κατάπαυε, ἀμμειγνυμένα (9) of ἀναμ-. The noblest harmonia, here, will suit well this gorgeous piece of flattery.

Bacchylides's rhythms in this short ode (evidently of eight strophes) present a quite basic and unelaborated expression of the dactylo-epitritic structure in a graceful, dignified stanza. The first three lines are metrically identical, but for the initial, additional long syllable of the first (in parentheses):

(–) – ∪ ∪ – ∪ ∪ – × – ∪ – – .

The fourth line is almost a "signature" of this meter: a series of dactylo-epitrite metra, usually three or four, with the last sometimes catalectic, as it is here, strongly suggesting a metrical rest of some duration at line-end:

– ∪ – – – ∪ – – – ∪ – ^ .

The character and construction of this meter affect the aural and kinesthetic senses much differently from those of the variations on the glyconic formula. It is a rather loose joining of the dactyl with livelier iambic or trochaic elements; poets must have found this juxtaposition pleasing, as it seems quite old. Archilochus composes epodes in this style; seemingly identical rhythms are found in Alcman (fl. ca.670), Stesichorus (fl. ca.610) and Anacreon as well.[24]

Dactylo-epitrites occur not at all in Aeschylus, apparently, but occasionally appear in Sophocles and early Euripides, as well as in Aristophanes. Its importance to us comes from the richness of its contribution to Pindar's music (some two dozen of the victory odes and some larger fragments) and that of Bacchylides.

In the re-creation of music for the strophic compositions in this chapter, a crucial objective, as I hope the examples make clear, has been to create a melody that is, or seems to the ear to be, the same for each strophe, while at the same time maintaining the integrity of the prosody, the accentual micro-melody of the words. The conventional modern opinion is that in strophic song the repetition of the melody from one strophe to the next meant that the word-accents must have been largely disregarded.[25]

Melody and prosody are the subject of Appendix vi, below, but in anticipation of examples and arguments there, I want to use the preceding composition to bring to attention some accentual correspondences in its strophes that may have been intentional rather than random. In line three of the extant strophes all fifth syllables from the end carry an acute accent; the accented words themselves seem to be part of a "climax" effect in the line: (3) hormaínō̃ ("I am eager"); (7) thálpēsi ("warms"); (11) krádemna ("battlements")(here a short anceps, but long in the four corresponding syllables); (15) ap' Aigúptou ("from Egypt"); and (19) anthrṓpoisi ("for men").

In the final line of the five strophes, the first syllable bears either an acute or circumflex accent: (4) khrúseon ("golden"); (8) Kúpridos ("Aphrodite"); (12) pâsi ("all"); (16) ploûton ("wealth"); and (20) kérdos ("profit"); and in line 24, last line of a very lacunose sixth strophe, a reasonable conjecture for the first word, oútis ("no one"), would make a sixth correspondence, and would have some verbal force, though within a familiar gnomic sentiment: "no man ever gets complete prosperity (throughout his life)" (ólbon d' éskhe pánta|oútis anthrṓpōn...; transl. D. Campbell). There are also several correspondences of accent in four of the five strophes that would facilitate repeating cadential figures at the end of lines 1 (penultimate syllable, strophes 1, 3-5), 2 (penultimate syllable, strophes 1-4), and 4 (ante-antepenultimate syllable, strophes 1-4). My view is that these accentual agreements have the look of compositional intent; but in any case they make it easy to repeat melodic figures that emphasize certain verbal features. (I have provided a possible musical realization of the correspondences--underlined--in line three.)

Inventing Strophic Melody

Given that it is possible to create melodies that repeat convincingly from one strophe to another and at the same time deliver the correct prosody--and whether or not our Greek composers may have done this will remain a question for discussion in Appendix vi, below--a few guidelines for strophic melodic construction are offered here, drawing on musical examples in these pages.

In restoring a musical voice to a chosen strophic composition, its words and prosody must first, it goes without saying, be learned thoroughly through repeated

recitation; the repetition will gradually disclose to the ear the shaping of the poem, not only its verbal sense and dramatic contours but, in my experience, of latent melodic contours as well. At this point one can decide on an appropriate harmonia and begin to improvise melodic figures vocally for the words, always making sure that the rules of prosody--the melodic shapes of the words themselves --are carefully observed.

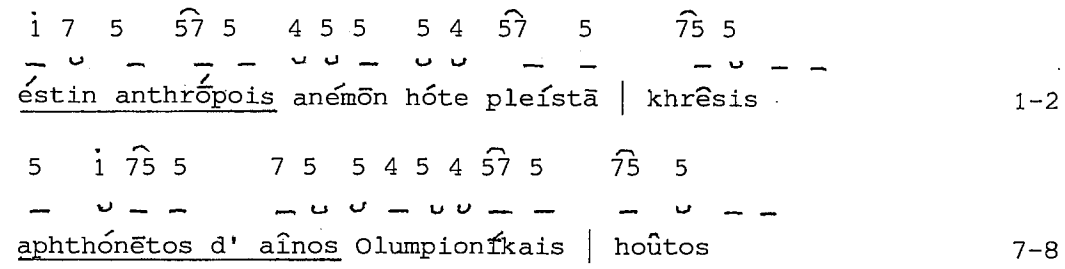
In considering then an entire poem, one can pick a single strophe to begin to melodize, deciding on the vocal register for each line (change of register is an inherently dramatic, articulatory device); on the scale degrees for the cadence pitches of each; on what the overall melodic shape of each line will be; and on where (and with what possible scale pitches) the "climax" points will occur; and then, for each line, on a suitable opening figure or interval.

Next, one can turn to cadential figures (cf. the Alcaeus example, above, p.113), fitting them to the words, and adjusting them, at the corresponding points in each strophe, as well as locating corresponding line-end rests.

From here all the strophes need to be worked on simultaneously, but still piecemeal, adjustments being made as one goes along: cadences, opening figures, line gestalt, and "motivic" figures that are prominent to the ear and will occur, or seem to occur, at exactly the same point in each strophe. (The examples of musical reconstruction in this chapter will probably be helpful.) This process is, most of the time, not nearly as hard as it may seem, but we may be humbled by the examples of Pindar, Aeschylus and others, who, whatever their method of composition, likely carried it out entirely by memory, with no kind of musical notation, and possibly without even a written verbal text; moreover, the words and melody were quite likely a simultaneous creation.

We have the relatively modern idea that a melody must repeat exactly from one stanza to another, but this is not true of much non-Western music. In the following example, Pindar's Eleventh Olympian Ode, strophe/antistrophe line 1-2, the opening figures (underlined) are quite different, yet they are heard as equivalent, I believe, in the melodies of the two lines (as reconstructed, Appendix vii.1):

4 5 7 i
a b d'e'



Devising an instrumental anabolē, close, and figures for the (vocal) rests, which were located earlier at the same points in all the strophes (cf. above, Anacreon, p.103; Sappho, p.109; Bacchylides, p.114), may be done last. The method just outlined is my general modus operandi; others will no doubt find their own congenial ways of working.

Supplement A: Terminology Trouble

The rhythm and meter of ancient Greek compositions have constituted a specialized study since antiquity. Such study is pursued today by more than a few classics scholars, and is indispensable to formal text-critical and style-critical work. Metrical analysis has accumulated layers of daunting terminology that have historical and practical rationales, but may at times seem impenetrable to students of Greek poetry (and its Latin imitations).[26]

The ancient metrical analysis served mainly to identify rhythmic components as a sequence of familiar feet and metra that added up to a larger element, a colon, line, and so on. For example, the 2nd.-century C.E. grammarian Hephaestion analyzed the Sapphic line (above, p.110)--he refers to "an epichoriambic ... which is called the Sapphic eleven-syllable"--as consisting of "a trochaic of six or seven time-units, ... a choriambic, ...[and] an iambus and the indifferent syllable," i.e., ⏑–⏑–× plus –⏑⏑–, plus ⏑– and × .[27]

This sort of analysis has been disparaged by modern experts in favor of identifying and naming larger metrical structures that different poets use in different contexts. Modern analyses tend to look like West's, for example, of the strophe of Pindar's Fourth Nemean Ode (Appendix vii.2, below),[28] the first three + lines of which are parsed as follows:

⏑ – ⏑ – ⏑⏑– ⏑ – – ⏑⏑–	
Áristos euphrosúnā pónoṇ kekriménon	anaclastic telesillean plus reversed dodrans
– – ⏑ – ⏑ ⏑ –	
ĭātrós, hai dè sophaí	anaclastic telesillean
– – ⏑ – ⏑ ⏑– – – – ⏑ – ⏑⏑–	
Moisân thúgatres aoidaì thélxan nin haptómenai.	the same, plus anaclastic glyconic$_2$

Needless to say, this process is very like that of the ancients, except that the chunks are larger. And such thinking is unlikely to have been a significant part of the compositional process, which concerned itself with the sound and feel of the rhythms of chosen words (whose rhythms, of course, affected their choice).

A limited number of variations of the glyconic formula have been recognized (and named) over time by modern scholars as recurring patterns in the

work of various composers. West writes, "New insights have necessitated the creation of new technical terms ... ."[29] Why certain of these varied glyconics were used repeatedly and others not is probably not knowable. Most of those that were are arranged as follows, mainly to show rhythmic affinities, as well as for recognition.

glyconic	– × – ∪ ∪ – ∪ –
pherecratean	– × – ∪ ∪ – –
dodrans	– ∪ ∪ – ∪ –
aristophanean	– ∪ ∪ – ∪ – –
anaclastic glyconic$_1$	– ∪ ∪ – ∪ – ∪ –
reizianum	× – ∪ ∪ – –
telesillean	× – ∪ ∪ – ∪ –
hagesichorean	× – ∪ ∪ – ∪ – –
reversed dodrans	– × – ∪ ∪ –
hipponactean	– × – ∪ ∪ – ∪ – –
anaclastic telesillean	× – × – ∪ ∪ –
enneasyllable	× – × – ∪ ∪ – ∪ –
anaclastic glyconic$_2$	× × – ∪ – ∪ ∪ –

"Aeolo-choriambic cola seem capable of endless variation";[30] and we have already seen how the glyconic metron can be expanded internally.

Some analysis, at least, will often be helpful for the performer, making clearer and more recognizable to the ear the most frequently used cola, and how seemingly different patterns may be related. In the glyconic variants above, for example, the pherecratean is obviously a catalectic glyconic, while the telesillean is a glyconic that is "headless" (acephalic); some changes extend the glyconic colon at its beginning or end, while others shorten it, or both. It seems quite sufficient for the performer simply to recognize the glyconic principle in its different permutations; noting a line as "gly. var." will be adequate for most performance needs.

In sharp contrast to the abundantly accumulated terminology for the aeolo-choriambic variations on the glyconic formula is the now-standard shorthand analysis of dactylo-epitrite compositions (as well as isolated lines), invented by Paul Maas:[31] in the interest of efficiency in the use of symbols, it obscures rather than clarifies the nature of this important category of rhythmic composition. Maas uses four basic symbols: e stands for – ∪ – ; d for – ∪∪ – ; E for an extended e, – ∪ – × – ∪ – ; and D for an extended d, – ∪∪ – ∪∪ – . (There are several subcategories of these as well, which we don't need here.) Maas would analyze the strophe of Bacchylides fr.20B as follows:

– D × e – | D × e – (twice) | E – e.

Everything is in this formulation neatly accounted for, but something has gone quite wrong.

D is unexceptionable, although this familiar colon appears in an entirely different context as one half of the elegiac pentameter (above, p.83); modern metrical studies refer to it as the hemiepes.[32] More problematic is d, identical with the choriamb, and which in part for that reason fails to remind the ear of dactyls; moreover, in order to become "dactylic," d has to be compounded with a long syllable, d –. The letter e is presumably intended to stand for epitrite, the incomposite 7-unit metron, but in Maas's system it is in fact instead the 5-unit cretic foot, and, again, the supplement of a long is necessary, e –, to complete an epitritic metron. Clever though it is, Maas's analytic schema falsifies to the ear the groupings of dactylo-epitrite meter--to my ear, at any rate.[33]

This meter is not so rigid as the analytic formulations make it seem: it is very malleable in the hands of Pindar, who often begins a line with the epitrite rather than the dactyl, as in Olympian 11, referred to above; in only two lines of its strophe-antistrophe-epode triad, 13 and 19, do the dactyls precede the epitrites.

The juncture of dactyl and epitrite has not been accounted for adequately in metrical theory. There are various explanations for the origin and function of the so-called "link" anceps syllable, but I find it persuasive to hear the short anceps with the preceding long as an extended epitrite: – ∪ – ∪ – – , while the long anceps stays with the preceding dactyls.

Finally, there is the question, especially relevant to the music of the following chapter, of syncopation (sunkopē, "cutting short"), an effect associated primarily with the extensive passages of lyric (sung) iambics in the tragedies. Rhythmic figures often found together with iambics are the cretic (— ∪ —), bacchaic (or baccheic, ∪— —) and spondaic (— —) feet. These are today usually interpreted in iambic context as incomplete, or syncopated, iambic metra, where the subscript sign ∧ indicates a missing (short) element. The syncopation seems to be a modern analytic concept, based on the ancient principle of catalexis (above, p.90-1); in consulting modern metrical analyses, the performer will need to be familiar with the terminology and abbreviations; the latter are as follows:

$_{\wedge}$ia	— ∪ —	cretic	(cr)
ia$_{\wedge}$	∪ — —	bacchiac	(ba)
$_{\wedge}$ia$_{\wedge}$	— —	spondaic	(sp).[35]

The question of context is, of course, central, as has been suggested before. But even in the context of iambics, can we hear cretics and bacchiacs absolutely, as the 5-unit elements they are, or do they inevitably become "reduced" iambics? (The analysis of the spondee as a doubly syncopated iamb I find excessively reductionist.) There is often for me an inherent ambiguity in many of these rhythms.

As an example, I offer the sung choral lines of the kommos strophe (1398-1421) of the powerful final scene of Sophocles's Electra,[36] where Orestes and Pylades, offstage, are murdering Orestes's mother Clytemnestra (murderer of her husband and Orestes's father, Agamemnon), while Electra, Orestes's sister, is telling the chorus of women what is happening. The poetry, not metrically atypical, is partly the familiar trimeters of dialogue, spoken in high tragic style, with interruptions of cries from Clytemnestra, of urgent questions, spoken, from voices in the chorus, and with interjected, sung reactions from the entire chorus, creating a deliberate confusion of high emotion. The entire strophe is given in literal translation, italicized, below; the sung lines of the chorus, Greek and English, are provided with abbreviated analysis, as well as the suggestion of a simple Dorian-mode (p.33, 55, above) melody for singing.

ELECTRA. *Dearest women: the men at this moment* 1398
are doing their work; but be silent and wait. *[burial*
CHORUS. *How, then? What are they doing now?* EL. *She [Clytemnestra] is with the urn [for the supposedly dead Orestes], preparing it; the two men stand nearby.*
CHO. *And you hurried out for what?* EL. *To guard against*
Aegisthus [Cl.'s lover], without our knowledge, coming.
CLYTEMNESTRA. *Aiai! Alas for the house,*
of friends forsaken, and with murderers filled! 1405
EL. *Someone is shouting inside--do you hear it, friends?*

1̂2 1 1 2̂4 2 1 2
— — ⏑ — — ⏑ —
CHO. ékous' anékousta dú- ia cr ia ^ia
I heard the unhearable, to my
1 1 1̂2 1 4̂2 1
— ⏑ — ⏑ — —
stānos, hóste phrîxai. cr ba ^ia ia^
misfortune--it made me shudder!

CL. *Alas for me! Aegisthus, wherever are you?*
EL. *There--again someone cries out.* CL. *(My) son, son,* 1410
pity your mother! EL. *But from you*
there was no pity for him, nor for his begetter and father!

2̂1 2 1 2̂1 7 7 1̂2 4 2 1 2̂1 1
— ⏑ ⏑ — ⏑ ⏑ — ⏑ — ⏑ — —
CHO. ô pólis, ô geneà tálaina, nûn soi dactylo-epitrite D ⏑ e —
Oh city, oh family wretched, now your
4̂2 1 7 7̂1 1 2 1 4 2̂1 2 1
— ⏑ ⏑ — ⏑ ⏑ — ⏑ — ⏑ —
moîra kathāmeríā phthínei phthínei. dactylo-epitrite D ⏑ e catalectic
fate is day by day dying, dying.

CL. *Oh, I've been hit!* EL. *Hit, if you have the strength, again!* 1415
CL. *Oh, again!* EL. *If only Aegisthus had the same!*

1 2̂1 7̇ 1̂2 4̂2 1 1̂2
⏑ – ⏑ – – ⏑ –
CHO. teloûs' araí: zôsin hoi ia cr ia ^ia

This is the work of the curses: come alive are those

4̂2 1 7̇1 1̂2 1 1
– ⏑ – – ⏑ – (x̄ ?)
gâs hupaì keímenoi. cr cr ^ia ^ia

beneath the earth lying:

2 2̂4 2 1 2 4̂2 1 2 1̂2 4̂2 1 2̂1
⏑ – ⏑ – ⏑ – ⏑ – – – ⏑ –
palírrhutoṅ gàr haîm' hupexhairoûsi tôṅ 3 ia 3 ia 1420

for flowing again is blood taken away from the

7̇ 1̂2 1 7̇1 2 1 7̇ 2̂1 1
⏑ – – – ⏑ – ⏑ – –
ktanóntōn hoi pálai thanóntes. ba cr ba ia^ ^ia ia^

slayers by those who earlier died.

The context of these choral responses is largely iambic; the dactylo-epitrites of 1413-14 are unusual (and would have been noticed as such). But cretics are almost as numerous as iambs. Do we feel these as 5-unit elements mixed with 6- or 7-unit iambic metra? Or do we feel the opening iamb of teloûs' araí become diminished (or compressed) by the loss of a syllable in zôsin hoi, gâs hupaí, and keímenoi?[37]

Then there is the effect of colometry, the editorial division of the text into lines that visually influences our sense of the rhythmic groupings. With "teloûs' araí: zôsin hoi gâs hupaì keímenoi" we have a single sentence, and likewise with 1407-8, 1413-14 and 1420-21. What the performer has to do, of course, is reunite the pieces--foot, metron, colon, phrase, sentence, strophe--into a semblance of the composer's unified conception. The sense of the text is perhaps what we regard today as fundamental in linking the composition's structural elements; the rhythms of the words, as we are constantly reminded, are the rhythms of the composition. In reconstituting a melodic element, we regain another indispensable component of the original; it is music that has, arguably, the primary role--as it once did--in shaping, clarifying and unifying the composer's work.

Supplement B: Sappho: fr.94, lines 1-5, 12-29 (continued from p.109)

— x — ∪∪ — ∪ — | τεθνᾰ́κην δ' ἀδόλως θέλω·
... to be dead, honestly, I wish.

ἄ με ψιϲδομένᾱ κατελίμπανεν
She me tearfully was leaving, (with) 2

πόλλα καὶ τόδ' ἴ(F)ελπέ μοι· | "ὤιμ' ὡϲ δεῖνα πέπονθαμεν,
many (tears), and said this to me, "Alas for the bad luck we have had,

Ψάπφ', ἦ μάν ϲ' ἀέκοιϲ' ἀπυλιμπάνω."
Sappho: truly against my will I leave you." 5

(to lines 6-11, p.108-9)

πόλλοιϲ γὰρ ϲτεφάνοιϲ ἰὼν | καὶ βρόδῳϲ κροκίων τ' ὔμοι
For many were the wreaths of violets and roses and crocuses ...

κᾱ x — πὰρ ἔμοι περεθήκαο,
... by my side you put on, 14

καὶ πόλλαιϲ ὑπαθύμιδαϲ | πλέκταιϲ ἀμφ' ἀπάλᾱι δέρᾱι
and many garlands woven about (your) tender throat

ἀνθέων ἔβαλεϲ πεποημμέναιϲ,
from flowers made you put. 17

καὶ πόλλωι υ υ — . μύρωι | βρενθείωι. υ υ — υ —
and with much *perfume* *costly*

ἐξᾰλείψᾰῧ καὶ βασιληΐωι, 20
you anointed yourself, and with basileion,

καὶ στρώμνᾱν ἐπὶ μολθάκᾱν | ἀπάλᾱμ πᾰ̈ υ — υ ων
and on a bed *soft* *tender ...*

ἐξίης πόθον — υ υ — . νίδων, 23
you would satisfy your desire ...

κωὔτε τις υ υ οὔτε τι | ἶρον οὐδῠ̆ υ — υ —
and neither any ... *nor any* *sacred place ...*

ἔπ'λετ' ὄπποθεν ἄμμες ἀπέσκομεν 26
was there from which we were absent,

οὐκ ἄλσεος . υ υ — χόρος | — x — υ υ — ψόφος
no grove ... *dance ...* *sound ...*

— x — υ υ — υ υ οἰδιαι . . . 29

Performance notes (continued): τις, line 24, and the final syllables of 28 and 29 should be sung as long.

Supplement C: Alcaeus: fr.298, lines 12-24 (continued from p.112)

d e g a b d' e'
? 1 3 4 5 7 i

x — ∪ — ας Δᾱΐφοβόν τ' ἄμα
... and Deiphobus also

ἔπεφνον, οἰμώγᾱ δ' ἀπὺ τείχεος
they killed, and wailing from the wall

ὄρωρε, καὶ παίδων ἀΰτᾱ
arose, and from the children a shout

Δαρδάνιον πέδιον κατῆχε·
the Dardanian plain filled.

Αἴᾱς δὲ λύσσᾱν ἦλθ' ὀλόᾱν ἔχων
And Ajax in deadly madness came

ἐς ναῦον ἁγνᾶς Πάλλαδος, ἃ θέων
to the temple of holy Pallas, who of the gods

θνάτοισι θεοσύλοισι πάντων
for mortals sacrilegious, of all

ἀλνοτάτᾱ μακάρων πέφῡκε·
most terrible of the blessed (gods) is,

χέρρεσσι δ' ἀμφοίμ παρθενίκᾱν ἕλων 20
and with both hands the maiden seizing,

σέμνωι παρεστάκοισαν ἀγάλματι
(she) standing by the holy image,

ὕβρισσ' ὁ Λόκρος, οὐδ' ἔδεισε
(her) the Locrian ravished, nor did he fear

παῖδα Δίος πολέμω δότερραν.....(?) 23
the daughter of Zeus, of war's (victory) giver,

$\hat{1}\underline{7}$ $\hat{7}\underline{1}$ 1 $\hat{3}\underline{1}$ 4 $\hat{5}\underline{4}$ 4 5 7 5 5 $\underline{431}$
...γόργωπιν· ἃ δὲ δεῖνον ὑπ' ὀφρύσι ...
fierce-eyed; but she, terribly, beneath her brows, ...

(3 $\underline{43}$ $\underline{45}$ $\underline{75}$ $\underline{434}$ $\underline{3}$ 1 $\underline{5431}$

$\underline{34}$ 3 $\underline{13}$ $\underline{4}$ 3 $\underline{445}$ 4 $\underline{534}$

5 $\underline{\dot{7}1}$ 5 $\underline{7454}$ $\underline{1}$ 3 1 $\underline{54}$ 7 5 $\underline{43}$ $\underline{541}$ 3 $\hat{1}$)

Performance notes (continued): épēpon, p.112, line 11, is from ἐφέπω (ep(i)-hépō), in its psilotic ("smooth," i.e., avoiding aspiration), Aeolic form. It is at least possible that the short syllables ending lines 12 (ἄμᾰ), 20 (-ματῐ) and 22 (ἔδεισε) were performed short rather than long, as expected, giving a surprising lurch into the following line and an increased dramatic effect. (This may happen at some line-endings in the Sappho fr.1, Appendix v, below.) Lines 25-27 are omitted here as apparently being out of place (GL 2, 338, 341 n.5). (My translations of the Sappho, Alcaeus and Bacchylides poems above have relied substantially on those of David Campbell in GL.)

Supplement D: Some Very Old Drinking Songs

Strophic form is a characteristically Indo-European technique of poetic composition.[38] An example of this genre that has the appearance of ancient origin, but has been, I think, too little examined, is a traditional Greek drinking-song, the scolion (skolion, pl. skolia, "crooked"--cf. the modern medical term "scoliosis." Antiquity's explanations of this name are not satisfactory; see GL5, 274-9). A group of scolia with varied texts but identical meter seems to be among the oldest such Greek songs we have, quoted in Athenaeus's Deipnosophistae or The Learned Banqueters (15.694-5; GL5, 278-293, nos. 884-90, 893-96, 907). The rhythmic structure resembles that of the isosyllabic Alcaic stanza (above, p.112-13): a a b c, b a shorter line, and all three closely related rhythmically:

— — — ∪ ∪ — ∪ — ∪ — —
Pallàs Trītogénei' ánass' Athēnâ,
órthou tḗnde pólin te kaì polī́tās, ∧ a

∪ ∪ — ∪ — — ∪ ∪ — —
áter algéōn kaì stáseōn b

— ∪ ∪ — ∪ — | — ∪ ∪ — ∪ —
kaì thanátōn aōrōn, sú te kaì patḗr. c

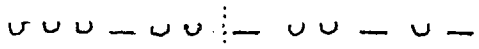
(884; translation below, p.133)

Line a we would probably call an extended glyconic, b perhaps an anaclastic glyconic, with its first two syllables thrown back from the line-end; the modern analysis of c is as two dodrans cola (above, p.121; dodrans is a recent term, Latin for "three quarters" (de quadrans), i.e., six of the eight positions of a regular glyconic).[39] But at its double short, a breaks into Anacreon's anaclastic ionic rhythm, which continues into b, changing to a choriamb, which in turn begins c: a very satisfying concatenation of rhythms.

These basic, recurrent rhythmic patterns, here found in popular songs, likely were ingrained in the language, especially in timeless phrases, proverbs and sayings. They bear a strong resemblance to stock meters of Vedic and Classical Sanskrit, as noted above (p.110), the Classical Upajāti, for example,

× — ∪ — — ∪ ∪ — ∪ — — ,

or Drutavilambita,



whose second half (and first half, almost) is the dodrans.[40]

It seems likely that this particular strophic song, for which Athenaeus gives twelve different sets of words (one incomplete; all of these are given, with translations, at the end of this supplement), was sung to one or another familiar tune. To the chosen tune, at the symposium, or drinking party, new strophes were improvised, some of which were no doubt like those Athenaeus has preserved, while others were decisively not. This is still of course an occasional amusement, though today it is to autonomous, rather inflexible--if familiar--melodies that lyrics may be improvised. My arbitrary assumption here is that the rules of prosody (pitch-accent) were generally observed by the symposiasts, and so--again, this is simply a working principle of my reconstructions--generic melodic shapes for the lines were adhered to within one traditional mode or another.[41]

\+ Assigning a mixed scale, then (cf. below,), I imagine my hypothetical partyers singing the the above strophe as follows:

e g a b c'
ę 1 2 3 4

231 21ę ę 1 ę 1 2 1 2 1 1 2 3̂2
Pallàs Trītogénei' ánass' Athēnâ

2̂3 1 1̂2 1 3 2 2 1̂2 2 3̂4 3 12
órthou ténde pólin te kaì polītās, Λ

3 2 2̂3 43 1̂2 3 2 2
áter algéōn kaì stáseōn

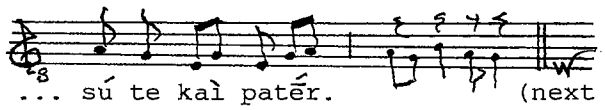
2̂3 3 4 2 11̂21 2 1 ę̂1 ę 1̂2 213 21
kaì thanátōn aőrōn, sú te kaì patḗr.

Note that for the second line the melody of the strophe as a whole requires a different melodic shape from that of the first, despite the identical rhythm. It appears that a rest of a long is fitting and desirable for all the strophes after line two, filled in by the instrument; between strophes there will certainly be a brief, "stock" instrumental connection, as suggested above. (Stá-seōn here is three syllables, without synizesis; I have marked long a, i and u.)

To construct a recognizably repeating melody--the repetition of which, as mentioned earlier, is the principal unifying factor of strophic composition--for this group of 11 complete strophes, I make use of the following melodic gestalt:

6	1	2	3	2					a'
2	1	3	2	3	4	3			a"
3	2	4	3	2	1	3	2		b
2	3	4	2	1	6	1	2	1	c.

The cadence of each line drops in pitch, simply because most phrases in Greek end paroxytone (penultimate-syllable acute accent) or proparoxytone (antepenultimate acute). The circumflex poses no problem on either of the two word-final syllables where it can occur, e.g., Athēnâ, 884.1. The sole difficulty for cadential prosody results from a phrase-final oxytone (acute ultima), as patḗr, 884.4.
+ My solution for this, already noted (above, p.), is resolution of the melody to the tonic by the omnipresent accompanying instrument, as in the melodized strophe just presented. To be perfectly clear, here is the end of 884.4 in modern musical notation; the next strophe will begin on e.



Finally, here are realizations of the fourth line (c) 884-7, following my melodic template above; there are, as easily seen, few problems.

	23	3	4	2	1	12	1	2	1	61	6	12
884.4	kaì	tha-	ná-	tōn	a-	ō-	rōn,	sú	te	kaì	pa-	tḗr.
	23	2	3	42	1	12	1	2	1	61	2	1
885.4	khaí-	re-	ton,	eû	dè	tánd'	am-	phé-	pe-	tom	pó-	lin.
	23	2	3	34	2	1	21	2	1	61	2	1
886.4	Ár-	te-	min,	hà	gu-	nai-	kôm	még'	é-	khei	krá-	tos.
	23	3	4	2	1	1	21	2	1	61	2	1
887.4	eu-	phro-	sú-	nais,	a-	oi-	dâi	ke-	kha-	rē-	mé-	nos.

Twelve Scolia from Athenaeus 694c-695e[42]

P.M.G 884

Παλλὰς Τριτογένει', ἄνασσ' 'Αθηνᾶ,
ὄρθου τήνδε πόλιν τε καὶ πολίτας,
ἄτερ ἀλγέων καὶ στάσεων
καὶ θανάτων ἀώρων σύ τε καὶ πατήρ.

Pallas, Trito-born, our Lady Athena, guide this our city and her citizens aright, thou and thy Father too, free from pains and factions and death untimely.

885

Πλούτου μητέρ' 'Ολυμπίαν ἀείδω
Δήμητρα στεφανηφόροις ἐν ὥραις,
σέ τε, παῖ Διός, Φερσεφόνη·
χαίρετον, εὖ δὲ τάνδ' ἀμφέπετον πόλιν.

I sing of Plutus's mother, Olympian Demeter, at the season when wreaths are worn, and thee too, daughter of Zeus, Persephone; hail, ye twain, and guard ye both our city well.

886

ἐν Δήλῳ ποτ' ἔτικτε παῖδα Λατώ,
Φοῖβον χρυσοκόμαν, ἄνακτ' 'Απόλλω,
ἐλαφηβόλον τ' ἀγροτέραν
"Αρτεμιν, ἃ γυναικῶν μέγ' ἔχει κράτος.

In Delos, once upon a time, Leto bore a son, Phoebus of the golden hair, Lord Apollo; ay, and the deer-slaying huntress Artemis, who holds mighty power over women.

887

ὦ Πάν, 'Αρκαδίας μέδων κλεεννᾶς,
ὀρχηστὰ Βρομίαις ὀπαδὲ Νύμφαις,
γελάσειας, ὦ Πάν, ἐπ' ἐμαῖς
εὐφροσι ταῖσδ' ἀοιδαῖς κεχαρημένος.

O Pan, ruler over glorious Arcadia, dancing attendance with the revelling nymphs, smile joyously on these merry songs of mine.

888

ἐνικήσαμεν ὡς ἐβουλόμεσθα,
καὶ νίκην ἔδοσαν θεοὶ φέροντες . . .

We won as we desired; ay, the gods have given the victory, bringing ...

889

εἴθ' ἐξῆν ὁποῖός τις ἦν ἕκαστος
τὸ στῆθος διελόντ', ἔπειτα τὸν νοῦν
ἐσιδόντα, κλείσαντα πάλιν,
ἄνδρα φίλον νομίζειν ἀδόλῳ φρενί.

Would that, to see what sort of man each is, we could open his breast and look at his mind, then locking it up once more, regard him surely as our friend.

890

ὑγιαίνειν μὲν ἄριστον ἀνδρὶ θνητῷ,
δεύτερον δὲ καλὸν φυὰν γενέσθαι,
τὸ τρίτον δὲ πλουτεῖν ἀδόλως,
καὶ τὸ τέταρτον ἡβᾶν μετὰ τῶν φίλων.

To have health is mortal man's highest boon; second to that is to be born handsome; third, to have honest wealth; and fourth, to enjoy youth with our friends.

893
ἐν μύρτου κλαδὶ τὸ ξίφος φορήσω,
ὥσπερ Ἁρμόδιος καὶ Ἀριστογείτων,
ὅτε τὸν τύραννον κτανέτην
ἰσονόμους τ' Ἀθήνας ἐποιησάτην.

In a myrtle-branch I will carry my sword, as did Harmodius and Aristogeiton, when they slew the tyrant and made Athens a city of equal rights.

894
φίλταθ' Ἁρμόδι', οὔ τί που τέθνηκας·
νήσοις δ' ἐν μακάρων σέ φασιν εἶναι,
ἵνα περ ποδώκης Ἀχιλεύς,
Τυδεΐδην τέ φασι τὸν ἐσθλὸν Διομήδεα.

Dearest Harmodius, thou art not dead, I ween, but they say that thou art in the Islands of the Blest, where swift-footed Achilles lives, and, they say, the brave son of Tydeus, Diomed.

895
ἐν μύρτου κλαδὶ τὸ ξίφος φορήσω,
ὥσπερ Ἁρμόδιος καὶ Ἀριστογείτων,
ὅτ' Ἀθηναίης ἐν θυσίαις
ἄνδρα τύραννον Ἵππαρχον ἐκαινέτην.

In a myrtle-branch I will carry my sword, as did Harmodius and Aristogeiton, when at the feast of Athena they slew the tyrant Hipparchus.

896
αἰεὶ σφῷν κλέος ἔσσεται κατ' αἶαν,
φίλταθ' Ἁρμόδιος καὶ Ἀριστογείτων,
ὅτι τὸν τύραννον κτανέτην
ἰσονόμους τ' Ἀθήνας ἐποιησάτην.

Ever shall your fame live in the earth, dearest Harmodius and Aristogeiton, for that ye slew the tyrant and made Athens a city of equal rights.

907
αἰαῖ Λειψύδριον προδωσέταιρον,
οἵους ἄνδρας ἀπώλεσας, μάχεσθαι
ἀγαθούς τε καὶ εὐπατρίδας,
οἳ τότ' ἔδειξαν οἵων πατέρων κύρησαν.

Alas for Leipsydrium, betrayer of comrades, what heroes hast thou slain! Brave soldiers they, and sons of nobles, who showed on that day what fathers they had.

NOTES (Lyric Composition 1)

1. Most Sanskrit strophes are of three or (usually) four lines, and in most of these the lines are all in the same meter; the Vedic line allows some rhythmic variation; with an important exception, meters are based on syllable count with a fixed cadence at line end. A Sanskrit strophe can be difficult for the novice to recognize, as the devanāgarī text is regularly printed, space permitting, on a single line. See A.A. Macdonell, A Vedic Grammar for Students (Oxford U. Pr., 1916; many reprints).

With Greek, we have the impression that the earliest poetry was composed in hexameters; it is likely, however, that other types of composition, some more complex, were as old or even much older, but no evidence of them has survived. See, for example, Gregory Nagy's Comparative Studies in Greek and Indic Meter (Harvard U. Pr., 1974) and the appendix to his Pindar's Homer (Johns Hopkins U. Pr., 1990) for examples and arguments.

2. Among the most ancient strophic compositions that we have at least a part of is Alcman's so-called "Louvre Partheneion" (fr.1), five of whose unusually long, beautiful strophes exist almost intact (GL 2, 360-77). (The elegiac couplet is usually considered strophic, though I have placed it in the unilinear category for practical reasons. Technical definitions can be found, e.g., in GM, "Units of Analysis," p.4ff., an exposition well worth reading.)

3. Cicero, Tusculan Disputations 4.71: nam Anacreontis quidem tota poesis est amatoria. Horace, Odes 4.9.9f.: nec si quid olim lusit Anacreon|delevit aetas.

4. Fr.395, GL 2, 78-81; other ionic fragments complete enough to sing include 356 a-b. There is, however, similar, singable poetry aplenty in the Anacrontea. Ionic meter: OCD_3, 973; GM, 58-9, 124-7; IGM, 41f., 61-3; AGM, 45-7; SA, 61-4.

5. The mode here may not qualify as Anacreontean: Posidonius, quoted in Athenaeus (635c-d) "says that Anacreon mentions three kinds of melody, Phrygian, Dorian and Lydian, since these alone were employed by him" (transl. Barker, GMW 1, 295) (kaì ho mèn Poseidṓnios phēsin triôn melōidiôn autòn mnēmoneúein, Phrugíou te kaì Dōríou kai Ludíou; taútais gàr mónais Anakréonta kekhrêsthai.)

6. "O rôze reyne des fleurs," Le printemps de Claude le Jeune (Paris, 1603; no.10), as given in Geschichte der Musik in Beispielen, ed. by A. Schering (Leipzig: Breitkopf und Härtel, 1931), no.144. Le Jeune is perhaps the best known composer of music for vers mesuré, a revival of the quantitative meters, whose importance in the music of renaissance and baroque France is a subject of Dance Rhythms of the French Baroque by Betty Bang Mather (Indiana U. Pr., 1987), especially chapters 4, 7 and 8.

7. Quoted by Aristophanes, Knights 406; as translated there by J. Henderson: "Drink, Drink on a Happy Occasion!" (Aristophanes I, LCL 1998). Sumphorá is a neutral word (often signifying misfortune).

8. Anacreon's glyconics: GL 2, frr.357-61. The different poetic styles (Dorian, Ionic, Aeolic) are distinguished clearly in West's GM, 29, 35, 46-7. Horace remarks that Anacreon sang his love-songs (such as fr.357?) tearfully, with the hollow lyre, "in uncomplicated meter" (non elaboratum ad pedem, Epode 14.12).

9. Formulaic metrical patterns and entire stanzas are often named for composers; Sapphic and Alcaic are two well known examples. See the named meters in Supplement A, below.

10. The line in the Loeb edition (GL 2, p.54) reads (assuming e + ō synizesis)

– – – ◡ – ◡ ◡ –
d' hupsēlàs oréōn koruphás,

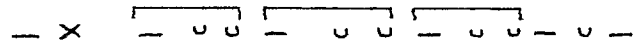
which strikes my ear as out of place, though presumably not impossible. I invite anyone who rejects my emendation to supply a melody for the Loeb text.

11. For example in the Fourth Nemean Ode, where he ventures that Timasarchus's father, were he alive, would have celebrated his son in singing this very ode to the cithara (see Appendix vii.2, lines 13-16). On Greek lyric poetry, see the excellent essay by Christopher Carey, OCD_3, pp.899-900. David Campbell's splendid five-volume collection (GL) gives us the edited corpus of Greek lyric verse from Alcman and Stesichorus to Timotheus, with English translation.

12. Alcaeus seems to have been the older by a few years, born probably ca.625. Ancient biographical sources for the two: GL 1, pp.2-51, 206-33.

13. Greek dialects: see OCD_3, 653-4; GG, 3-4.

14. West, GM, 30ff., covers this technique quite thoroughly. A further example is Sappho's fr.44a, a unilinear, narrative poem:



Phoíbōi khrūsokómāi, tòn étikte Kóō kórā (GL 1, p.90, line 2)

Phoebus the golden-haired, who was born of Coeus's daughter (Leto),

with two repetitions of the dactyl. Please note that in this chapter and the next all the ancient texts are given, for clarity, without any of the editorial symbols that are part of the critical texts; one can find the text-critical record, or its most important information, in Campbell's GL edition, for example.

15. AGM, chapter 9; cf. also Appendix iii, below.

16. Numeral notation has been used for centuries in China and Japan; see NG_2, "Notation" II.6, "Numbers"; the Western practice is credited to Rousseau, and became widely employed under the Galin-Paris-Chevé system in nineteenth-century France. See also Lou Harrison's Music Primer (above, p.66 n.3), 8-9. The Greeks also seem to have had a very limited, evidently late, solfège-type set of syllables indicating the positions of pitches in a generalized tetrachord: AGM, 265; AQ 77.30-81.6, GMW 2, 479ff.

17. I first encountered this surprising and lovely effect in Eve Beglarian's musical reconstructions of Sappho, performed al fresco by the New York Greek Drama Co., directed by Peter Steadman ("The Songs of Sappho," video recording, 1988, now on YouTube). On mode in Sappho's music, "Plutarch" 16, 1136c-d, GMW 1.221, AGM, 182. The remainder of the text of fr.94 is given in Supplement B, above.

18. Ancient Greek music can be divided into two categories, one based on additive rhythms, including isosyllabic verse, and the other isochronous, including hexameter, elegiac and anapestic poetry, the ionic rhythms of Anacreon, and compositions in regular cretic (5-unit) rhythms, the two Delphic Hymns, for example.

19. See, for example, Epiploke: Rhythmical Continuity and Poetic Structure in Greek Lyric, by Thomas Cole (Harvard U. Pr., 1988); cf. GM, 19.

20. "(Better in this world) to live (on alms) without killing the mighty elders," Mahābhārata, Book 6 ("Bhishma"), transl. by Alex Cherniak, vol.1, 26.5, p.180-1. The Clay Sanskrit Lirary (NYU Press, 2008). As with Greek and Latin, Sanskrit has several different eleven-syllable lines. See A.A. Macdonell, A Sanskrit Grammar for Students$_3$ (Oxford U. Pr., 1927), 231-5; and the admirable treatment of classical Sanskrit meters in Michael Coulson's Sanskrit: An Introduction to the Classical Language (Teach Yourself Books; Hodder & Stoughton, 1976), 249ff., 310ff. Catullus 1.1: "To whom do I give (my) nifty new book ...?"

21. Cf. Chapter 6, above; Lawler, The Dance in Ancient Greece (above, p.81 n.22), p.124-5 and passim; Plato: GMW 1, 141-2.

22. I find myself inclined to turn the steps into rather narrow circles, changing direction a piacere.

23. GL 4, 276-9; Bacchylides: A Selection, ed. by H. Maehler (Cambridge Greek and Latin Classics; Cambridge U. Pr., 2004), 72-4 (Greek only); extensive commentary, 243-51; the volume includes an excellent introductory essay on the background, language, meter and style of the composer, and is highly recommended.

24. The earliest dactylo-epitrite is usually thought to be found in the poetry of Stesichorus: I believe, however, that the meter is present earlier in Alcman (fr.1, the "Louvre Partheneion," lines 43-4, 48-9). While AQ accepts the seven-unit epitrite as a usable rhythm (1.18, 38.20; GMW 2, 443), Aristoxenus rejects it on what can only be arbitrary grounds (Elementa rhythmica 35; GMW 2, 189). An Archilochus epodic line (fr.188.1), perhaps a dactylo-epitrite precursor, runs as follows (for Archilochus, see p.96 n.5, above):

— ⏑ ⏑ — ⏑⏑ — ⏑⏑ — ⏑⏑ — ⏑ — ⏑ — —

ouké̓t' homô̓s thálleis hapalò̓n khróa; kárpetai gàr ḗdē̄

no longer as before do you bloom with soft skin; for withered now,

and is imitated by Horace (Odes 1.4.1),

solvitur ācris hiems grātā vice vēris et Favōni

Yielding is sharp winter, with the pleasant change of spring and the zephyr[.]

This meter generally: GM, 69-76, 132; IGM, 43ff., 65-7; SA, 85-90; Maehler (above,

n.23), 15-16; AGM, 151-2 with a caution about West's treatment of the "irrational long" and his interpretation (without the text!) in ex. 5.17. Stesichorus, GL, 49, 70. "The 'link-syllable' is a false concept as far as the process of creation is concerned. Greek poets compose with cola and need no mortar to join them." (West GM, 70)

25. AGM, 198-9: "[I]n strophic compositions,...correspondence of melody and accent could only have been achieved if each strophe sung to a given melody had been so composed as to have the same pattern of word accents. So far as we can see, this was never attempted." Cf. VG, 118. Contra, cf. Dale, The Lyric Meters... (p.131 n.35 below), 204-6.

26. See "Metre and the Transmission of the Text," SA, 94-119, for a history, which West gives, along with a rationale for present practice, including its shortcomings, GM, 27-8. (In this section we are concerned with meter only, not rhythm, as understood in ancient Greek theory. Cf. Appendix i, below.) Most of the recognized line or colon rhythms were named in antiquity after poets who presumably were associated with them--Glycon, Telesilla, Pherecrates, for example. Other names are of recent coinage--the reizianum, for instance, or the hagesichorean or wilamowitzianus; see GM 30, 191-201. "History of Metrical Studies," OCD_3, 974-5.

27. Hephaestion on Metre, a Translation and Commentary by J.M. van Ophuijsen (Mnemosyne: Bibliotheca classica Batava; supplementum centesimum) (E.J. Brill, 1987), xiv/43.11-16, p.130. The epichoriambic is defined in AQ 1.28, 51.14f., as a combination of trochaic and choriambic metra (GMW 2, 456). AQ relies on a similar kind of analysis, and, as mentioned before, his extensive treatment of metrics and rhythmics (which van Ophuijsen correlates with Hephaestion's treatise) is essential to a thorough understanding of the principles of ancient Greek rhythm. (A reminder: the "indifferent" syllable at line-end we regularly take to be a long.)

28. Moderns on the ancients, cf. GM, 28; Maas (below, n.31). Nemean 4: GM, 62; this ode is "monostrophic," i.e., strophic, in our current definition. (For translation, see Appendix vii.)

29. GM, 28.

30. L.P.E. Parker on Aeolo-choriambic: OCD_3, 974. Several anaclastic forms in West's list, GM, xi-xii, have been omitted: those of the hagesichorean and hipponactean. "Dodrans" is Latin for three quarters (de-quadrans). Full disclosure requires me to give the information here that the $—\times$ figure that opens the glyconic, pherecratean, reversed dodrans and hipponactean cola can be $—\cup$, $——$, sometimes $\cup—$, and rarely $\cup\cup$ (in Sappho, for example).

31. Greek Metre, by Paul Maas. Transl. by Hugh Lloyd-Jones (1923; Clarendon Pr., 1962), 40ff. Cf. GM, xi-xii, 69ff,; IGM, 43-4, 65-6.

32. GM, 196. It is obviously not half an epic line, as the name implies. The ancient term was penthemimer (penthēmimerēs, "of five halves," i.e., five half-feet of some line, as of the dactylic hexameter), Hephaestion 22.1 (above, note 27), for example. (West's (modern) penthemimer, $\times—\cup—\times$, is based on the iambic metron, GM, 198, 30.)

33. Hephaestion's dactylo-epitrites (15.10, 50.9-51.2) he calls encomiologic ("of the meter of a praise-ode"), giving as examples Alcaeus, fr.383 (GL1, 404-5) and Anacreon, fr.393 (GL 2, 78-9).

34. West's definition, GM, 200, of syncopation as "combining $\cup—$ or $—\cup$ into a single triseme [i.e., 3-unit] position" is, I believe, quite misleading. He gives the subject thorough treatment on 68-9 and 99-106, mentioning the triseme only in the context of Euripides's tragedies, which are beyond the scope of this study.

35. The abbreviations are as given in GM, xii, 31, 62; IMG, x, 52. See also the comprehensive and illuminating treatment in A. Marjorie Dale's The Lyric Metres of Greek Drama, 2nd edition (Cambridge U. Pr., 1968) (referred to below as $LMGD_2$), chapter 5, p.69-86. "Cretic" refers of course to the island of Crete; "bacchaic" to Bacchus and associated rites; "spondaic" comes from the solemn nature of libations (spondē) at the ratifying of a treaty (cf. p.61, above).

William Scott's studies of musical implications and forms in the tragedies, "as performed," of Aeschylus and Sophocles, Musical Design in Aeschylean Theater and Musical Design in Sophoclean Theater (Dartmouth College; Univ. Pr. of New England, 1984 and 1996), are accessible and valuable resources for the student

of these compositions: they give for each play the dramatic context along with clear metrical analyses of many of the lyric solos and choruses. (There are suggestions and recommendations of music in both volumes, but no actual music.)

36. kommos, "a wild lament" in Attic drama, from koptein ("to strike," "beat the breast in lamentation"). My text and colometry are those of Pearson's Oxford edition of 1924. Editions of Electra include that of LCL, ed. and transl. by H. Lloyd-Jones (1994); J.H. Kells's Greek text with commentary in the Cambridge Greek and Latin Classics series (1973); and the edition with commentary and translation by Richard Jebb, Sophocles: the Plays and Fragments, Part VI (Cambridge, 1907; reprint, Scholarly Pr., 1976). I hear line 1404, Clytemnestra's initial excamation--aiaî! iṏ stégai etc.--as beginning with iambics, truncated in this line at three feet, rather than the dochmiac of Scott and others; his reading of the cry aiaî as long-short I find unnatural, and would scan short-long or long-long.

37. There are technical explanations, mostly statistical, for the differentiation of cretics and bacchiacs from syncopated iambics: $LGDM_2$, 73-5.

38. Cf. Calvert Watkins, How to Kill a Dragon: Aspects of Indo-European Poetics (Oxford U. Press, 1995), p.19-21 and Part III.

39. Dodrans is Parker's most elemental rhythm of this genre, rather than the glyconic (SA, 70ff.).

40. A.A. Macdonell, A Sanskrit Grammar for Students$_3$ (Oxford U. Pr., 1927), 234. Few Sanskrit meters have a repeated dactylic foot, as here. The mysterious origins of the dactylic hexameter (referred to above, p.27, 47 n.1) perhaps reflected an idiosyncrasy of Greek musico-verbal expression; it is ironic that the oldest surviving Greek poetry uses a younger metrical framework, the hexameter, than those of the older indoeuropean prototypes, which reach us in Greek through Sappho, Pindar et al. But there may be some links between dactyl, elegiac pentameter and dodrans, particularly in cadential formulas: if the second half of an pentameter line (above, p.83) is deprived of its final position by catalexis, where the new final position becomes a long, a dodrans results:

Elegiac pentameter — ⏑⏑ — ⏑⏑ — : — ⏑⏑ — ⏑⏑ —

dodrans : — ⏑⏑ — ⏑ — .

The "greater asclepiad" line, the meter of Athenaeus's scolia 897, 902-5 and 908, which one may call a glyconic with double-choriambic extension (GM, p.32, 59-60; IGM, 85), terminates in a dodrans colon:

— — — ⏑⏑ — — ⏑⏑ — : — ⏑⏑ — ⏑ — .

(Of Athenaeus's other scolia, 891 is an Alcaic stanza, 892 telesillean and glyconic; 898-901 are couplets, anaclastic glyconic + dodrans; and 906 is an elegiac couplet (cf. GM, p.59-60).)

41. It is, of course, principally the development of writing that gave rise to the literalness of melodic repetition we are accustomed to, as well as to the primacy of melody over word.

42. These are all of Athenaeus's scolia of the rhythmic genre discussed above. P.M.G. numbers are those, in standard use, of D.L. Page's Poetae melici graeci (Oxford U. Pr., 1962). Note that 883 is incomplete, and that there are metrical irregularities in 896.2. The Greek text and the translations are taken from the LCL edition (vol.7, 1941) of Athenaeus by C.B. Gulick; editorial notes on the former and footnotes on the latter are omitted.

9. LYRIC COMPOSITION 2: Free Composition

The culmination of the ancient Greek musical art is in its great lyric works for solo voice and for chorus, composed mostly for some kind of collective ritual, whether in celebration of a victory or a marriage or a religious event, or in the theater. These works are "free compositions" in the sense that the composer makes use, on a large scale, of every diverse rhythmic and melodic resource, within the generally understood musical and dramatic structures of the art: compositions were mainly strophic (with composed strophes that were sometimes long, elaborate and complex[1]), and in theatrical works were shaped by the conventional forms of the drama, though composed uniquely for the necessity of each work. This is of course one way composers are accustomed to create, working freely within a familiar framework. (The strophic form, as mentioned earlier, is still indispensable to much music.)

We have already made the acquaintance of many of the basic rhythmic formulas that were used in larger works, as well as of the most important of the melodic modes or harmoniai. A few more "stock" rhythmic figures have yet to be introduced, mainly the anapestic, choriambic, cretic and dochmiac meters. The rhythmic figuration used in larger compositions by the musical masters--Pindar and Bacchylides, Aeschylus and Sophocles, Aristophanes; Euripdes, as already explained, became a part of a stylistic revolution that is musically obscure to us--is of an intricacy and complexity enjoyed by the musicians and dancers of their time, though presenting considerable challenges for performers today.

First, however, it will I think be advantageous to return briefly to the iambic and trochaic meters we met earlier, in Chapter 7, above all to consider the extensive and varied role of iambic meter in solo and choral lyric.

As mentioned, the iambic trimeter (which we are referring to simply as "trimeter") is the most common vehicle for dialogue, whether spoken (probably) in comedy, or declaimed in an elevated, stylized speech-song manner, as I think likely, in tragedy.[2] Enjambment is frequent, controlling where one can and cannot take a breath; examples are in the Solon passage above, p.88, 94-5. Very occasionally there will be an elision at a syntactic break, as in our Homer passage above,

p.38-9, lines 459-60 (with note, p.42), where a breath could be taken. Here is an example from Aeschylus's Agamemnon (1417-18), where a breath is natural and perhaps necessary, even though the elision (of a) is disrupted.[3]

(Clytemnestra) éthūsen hautoû paîda, philtátēn emoì
he sacrificed his own child, dearest to me

ōdîn', ✓ epōidòn Thrēikíōn aēmátōn.
of children, a charm against Thrace's gales[.]

There is regular caesura (word-end) in the trimeter, coming normally after the fifth position in the line[4] (penthemimeral caesura, i.e., five and a half feet), as in the two lines above; if not, there will likely be a caesura five positions before line-end; these typical breaks are easy to see in any trimeter passage. As noted in the Homer chapter, caesura is not a feature to be marked in any way by in performance; it is a structural artifact of the poetic compositional process that the listener will recognize subconsciously as part of the verbal and rhythmic articulation of the line.

Trochaic rhythms seem only rarely to raise performance questions. In the catalectic tetrameter (above, p.90ff.) there is always time for a breath in the rest at line-end (even, probably, in the relatively infrequent cases of enjambment). Caesura occurs very reliably at mid line in the tetrameter, contributing to its somewhat sing-song effect, no doubt an advantage in comedy.

• • •

Modern metricists posit a category called iambo-trochaic, which needs a bit of clarification here. It goes back to at least one ancient scholar's idea of epiplokē ("interweaving"), a sort of endless interwoven braid of iambic and trochaic

. . . x – ∪ – x – ∪ – x – ∪ . . .

(to a lesser extent of dactyl and anapest as well), with the iambic's initial, or the trochaic's terminal, anceps.[5]

An important metrical formula falls into this category, by some modern scholars' reckoning, the colon known as the lecythion (or lekuthion), the basic form of which,

– ∪ – x – ∪ – ,

is recognizable as part of the epiplokē segment above.[6] Occasional resolution of one or more longs is allowed, as happens in the (partial) line from which the figure gets its name, Aristophanes's Frogs 1208-50, where it is a comic refrain, a trimeter minus its first five positions, with which "Aeschylus" repeatedly interrupts "Euripides"'s attempts to quote his own verse, breaking into the latter's lines with the words

(× — ∪ — ⁞ ∪) — ∪ ⏑⏑ | ∪ — ∪ —
. . . . . lēkúthion apṓlesen
(my) little oil-flask is lost.

The fact that lecythia begin as trochees and finish as iambs has caused consternation, it seems, among metricians. For the performer, however, it is fundamentally trochaic (cf. GM, p.99-100). One might think it has the look of a catalectic dimeter, but this would be mistaken for two reasons: first, the lecythion has its own catalectic form, sometimes used cadentially, called the ithyphallic ("erect phallus")[7]

— ∪ — ∪ — — (^) ;

and secondly, lecythia frequently abut one another directly, without any possible intermediary rest such as is often signalled by catalexis, as in the following example, Agamemnon 160-2:[8]

— — | — ∪ — ∪ — ∪ — sp lek
Zeús, hóstis pot' estín, ei tód au-
Zeus, whoever he is, if this to
— ∪ — ∪ — ∪ — lek
tôi phílon kekl͡ēménōi,
him is a friendly name[.]

where it is clear there can be no break between the two cola. Both lecythion and ithyphallic associate comfortably and frequently with iambic and cretic metra, as often in Aeschylus, e.g., Agamemnon 480-2 (Epode):

∪ — ∪ — | — ∪ — ia cr
phlogòs parangél͡măsin
... from fires' reports,
∪ — ∪ — | — ∪ — ∪ — ia lek
néois purōthénta kardían épeit'
new, fired up, does the heart, then,
— ∪ — ∪ — ∪ — lek
allagâi lógou kameîn?
with a different story, weaken?

• • •

Sophocles Electra, 1384-97

Strophe

d e f a b♭
7 1 2 4 5

71242 5 4 5 4 4 5 2 1

ídet' hópou pronémetai — 2 cr

See where advancing,

2 1 4 2 1 42 2 4 54 2 1

tò dusériston haîma phūsôn Árēs. — 1385 — 2 doch

invincible, with bloody breath, is Ares.

721 1 12 1 7 2 17 1 2 1 17

bebâsin árti dōmátōn hupóstegoi — 3 ia

They are come now under the house's roof,

7 2 1 12 2 42 1 12 24 5 4

metádromoi kakôm panourgēmátōn — 2 doch

the pursuers of evil's perpetrators:

5 4 45 5 4

áphuktoi kúnes; — doch

the inescapable hounds.

45 21 7 71 2 71 1 21

hôst' ou makrân et' ammeneî — 2 ia

So, not for long will be held

7 17 121 4 21 1 7 711 2 1 1 171242

toumòm phrenôn óneiron aiōroúmenon. — 1390 — 3 ia

my mind's vision in suspense.

The Greek composers of our period took frequent advantage of the so-called cretic meter, named for the island culture of its supposed origin, a meter we think of as quintuple, commonly indicated as 5/8 or 5/4 in modern musical notation.[9] We have met the cretic metron — ∪ — earlier, analyzed as a "syncopated iamb" (∧ — ∪ — , p.123), but it exists as an autonomous quintuple rhythm among iambs. Composers have written entire songs in cretic meter, two extended examples of which are given below: Aristophanes's straightforward parabasis-song, Acharnians 665-75 and 692-702, in Appendix viii; and the far more elaborate, "free" cretic

Antistrophe

4 5 4 4 5 4 5 2̂1
παράγεται γὰρ ἐνέρων
For he sidles in, the dead's

δολιόπους ἀρωγὸς εἴσω στέγας,
stealthy-footed champion, into the house,

ἀρχαιόπλουτα πατρὸς εἰς ἑδώλια,
anciently wealthy, the father's palace,

νεᾰκόνητον αἷμα χειροῖν ἔχων·
with newly sharpened blood on his hands:

ὁ Μαίᾱς δὲ παῖς 1395
and he, Maia's son

Ἑρμῆς σφ' ἄγει δόλον σκότωι
Hermes, draws the deception, in dark

κρύψᾱς πρὸς αὐτὸ τέρμα, κοὐκέτ' ἀμμένει. (to 1398, p.124)
concealed, to the very end, and no longer delays.

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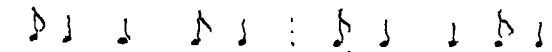
that is the rhythmic basis of Pindar's Second Olympian Ode (Appendix vii). The two longest compositions to survive in ancient Greek musical notation, the Delphic Hymns of 127 BCE, were composed almost entirely in cretic meter.[10] (The cretic meter was almost altogether resistant to the attempts of 19th- and 20th-century rhythmicists to bend it to northern European principles of verse-rhythm, but at least one scholar, Émile Martin, for example, has interpreted as | ♩ ♪♩. | the recurring cretic | ♩ ♪♩ |.[11])

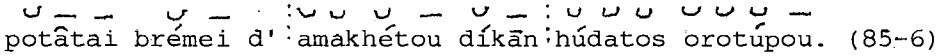
• • •

Perhaps the most characteristically Greek of metrical formulas is the dochmiac metron (dokhmios, "oblique," "on a slant"), a compressed rhythmic figure favored by composers at moments of high excitement or emotion. Despite some varied forms, it is almost always recognizable to our modern ears. The simplest dochmiac appears as in Aeschylus, Seven against Thebes 126-7,

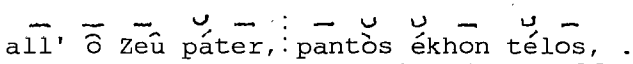


dorussoîs sagaîs : púlais hebdómais
with spear and harness at the seven gates[,]

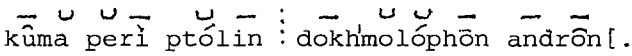
appearing, as often, paired, the pairs divided by word-end.[12] To my ear there is a clear grouping of five elements. The syllable lengths can vary, though the last two are normally short-long; resolution is common. Here are some typical variants, again from Seven against Thebes, a tragedy that is a compendium of dochmiac rhythms:



potâtai brémei d' : amakhétou díkān : húdatos orotúpou. (85-6)
It flies, roars like an irresistible mountain flood.



all' ô Zeû páter, : pantòs ékhon télos, ... (116-17)[13]
But o father Zeus, of all things holder of the fate, ...



kûma perì ptólin : dokhmolóphōn andrôn[.] (112-13)
waves, around the city, of plume-helmeted men[.]

Dochmiac regularly associates with related rhythms, especially iambic (the dochmiac at times feels like a prolonged, and at other times a rushed, iambic sequence), and with cretic as well. A particularly trenchant example of the interplay of iambic, cretic and dochmiac rhythms is the brief, menacing chorus, on the preceding two pages, that adumbrates the climactic violence in the scene that follows it immediately, given above, p.124-5. As in that realization, a basic Dorian (synhēmmenon, above, p.52) is used; the melody given for the strophe can be fit to the antistrophe's words with very few adjustments, despite the relatively poor correspondence of accents (Appendix vi, below). (For the musical notation in this chapter, see above, p.107-9; and for the crasis in line 1390, p.146 (toὐmón) and 1397, p.147 (koὐkét'), see p.48, note 11.)

• • •

The "glyconic variations" were considered in the preceding chapter (p.104ff., 120f.). A kind of line with clear rhythmic kinship has managed, quite uniquely, to elude definitive capture as an analytic category, and while relatively uncommon, occurs importantly enough to be singled out: the so-called choriambic dimeter. The misnomer is immediately evident; it is not in fact a pair of choriambic metra but rather an eight-syllable rhythmic configuration (occasionally with a resolved long) that begins or ends with a choriamb, and whose other half is usually an iambic metron. This rhythmic pairing of double-short and single-short elements is ancient, with examples in Archilochus; the present pattern is today traced to Anacreon.[14] There are few extended passages of choriambic dimeter in the tragedies we possess; it may have been felt in part as a kind of transitional rhythm between glyconic-type movement and (lyric) iambic. The following strophe, complete, from the parhodos of Sophocles's Trachiniae (The Women of Trachis), 112-21, conveys something of its inherent gracefulness, in a beautiful, hortatory song to the troubled Deianira, in the absence of her husband, Hercules:[15]

pollà gàr hōst' akámantos		D -
For in the way that many, from the tireless		
ē nótou ē boréā tis		D -
south wind, or the north, are the		
kúmat' àn euréï póntōi		D -
waves on the wide sea		
bánt' epiónta t' ídoi, ^	115	D
advancing that one may see,		
houtō dè tòn Kadmogenē		chor d
so also a Theban man		
tréphei, tò d' aú- xei biótou		chor d
is sustained and grows strong in life		
polúponon hōs- per pélagos		chor d
from difficulties, as does a Cretan		
Krēsion; al- lá tis theôn		chor d
sea. But by some god		
aièn anam- plakēton Haí-	120	chor d
always from error and Ha-		
dā sphe domōn erúkei. ^		arist
des's house he is protected.		

Note the resolution of a long in 118 and the correption (shortening) of -tou in 113; final -s in 112 makes a long syllable. The preceding strophic pair (94-111) is dactylic and dactylo-epitrite; the epode (132-40) that follows the antistrophe to the above is mainly iambic and cretic. Coincidentally, the catalectic form of the choriambic dimeter, line 121 (where it calls for a rest) is a common --and particularly Aeschylean--cadential line (clausula), and as such is invariable, usually taking the technical name aristophanean (glyconic chart above, p.121). Fortunately performers are largely absolved of anxiety as to which metrical box a particular rhythmic expression belongs in; acquiring aural familiarity with basic patterns, however, will substantially enhance one's apprehension and understanding of a composition's particular schema (skhēma, "form, figure").[16]

• • •

The dactyl, especially in its six-foot, epic form, is at times an important and expressive rhythmic resource of choral lyric, imparting to it its qualities of dignity and weight.[17] Longer choral or solo songs that are entirely or largely dactylic include the opening of Aeschylus's Agamemnon (104-59, perhaps suggesting epic nostos); the final scene of Sophocles's Philoctetes, in particular the astrophic exchange between the protagonist and members of the chorus, 1169ff.; and the scene between chorus and Oedipus, also astrophic, in Oedipus at Colonus, 207-53.

• • •

Ionic meter is relatively uncommon in tragic lyric, but there is "an exceptional concentration of pure, or almost pure, ionic stanzas" in Aeschylus's Persians that invite a musical example. We sang Anacreon's ionics a chapter ago; these, though of tragedy, will be entirely familiar, both "straight" and anaclastic.[18] The effect of this chorus is unique and particularly arresting. I propose using a spodeion tetrachord, which includes midtone (3/4-tone) intervals, familiar in Persian folk and art music. (See p.61 and 63, above and Appendix i, p.174.) The first strophe (65-72) of this lengthy and powerful chorus follows:

Aeschylus Persians, 65-73

d e f a b c'♮ d'
4 5 6 1 2 3 4

Strophe 1

12124321 1 2 1 1 2 1 2 4 3 2 12 1
pepérākem mèn ho perséptolis édē 65
Gone the destroyer of cities now,

1 2 1 1 1 2 1 2 4 3 2 23 2 1 12 1
basíleios stratòs eis antíporoṅ geítona khṓrān,
royal army, across the strait to neighboring land,

2 3 4 2 3 4 2 1 2 1 12 1
linodésmōi skhedíāi porthmòn ameípsās
on linen-bound pontoons crossing over

5 6 5 1 6 56 5 5 6 5 6 1 6 5
Athamantídos Hél̲lăs, polúgomphon hódisma 70-1
Athamas's Helle, a many-bolted road,

4 5 6 5 4 56 5 1 5 65 5 5616
zugòn amphibalṑn aukhéni pṓntou.
a yoke throwing around the neck of the sea.

Antistrophe 1

1 1 2 1 1 2 1 24 3 2 12 1
πολυάνδρου δ' Ἀσίας θούριος ἄρχων etc.
And of populous Asia the warlike ruler ...

• • •

Anapestic feet and metra occur frequently in drama, serving various functions. The anapest is one of the regular meters of Greek poetry, as opposed to the additive meters, such as the glyconic and its varieties, or the sporadic, spondaic retardations characteristic of iambic and trochaic metra, and a few related figures. The regular meters have feet or metra of equal length, as, for example, modern regular meters with equal bar lengths, whose variety comes from various internal arrangements of rhythm. In addion to the anapest, regular Greek meters include the dactyls of epic verse, cretic meter (with its resolved-long varieties, often

called paeonic), and ionic, including Anacreon's formulaic ionic stanzas (Chapter 8, above). The anapestic foot is nominally two shorts and a long (∪∪—, ♫♩), the reverse of the dactyl (anapaestic, as the British more correctly spell it, is from anapaiein, "to knock back, reverse"), but it appears variously not only as ∪∪—, but as ——, —∪∪, and sometimes ∪∪∪∪ as well. Unlike the dactyl, but more like iambic and trochaic, the anapest was normally felt as a metron of paired feet.

The nearly absolute regularity of the anapestic meter presents no difficulties for the modern "4 x 4"-oriented ear: anapests appear in highly regulated groups of 4, 8 and so on; a section of anapests will normally signal its end with catalexis and a rest. Anapestic rhythm, with its symmetrical regularities, is said to come from Spartan military marching songs, and its most prominent use on the tragic stage is to accompany the movement of the chorus in its entrances or exits. The following brief excerpt from the parhodos of Aeschylus's Agamemnon (101-103) is typical (the catalectic line has the technical name paroemiac):[19]

∪ ∪ — ∪ ∪ — | — ∪ ∪ — —
totè d' ek thusiôn hâs anaphaíneis
But now, from the sacrifices you (Clytemnestra) show us,
— ∪ ∪ — — | — ∪ ∪ — —
elpìs amũnei phrontíd' áplēston
a hope deflects (our) insatiable concern
— — ∪ ∪ — | ∪ ∪ — —
kaì thūmobórom phréni lūpēn. ^
and gnawing heart-pain.

The chorus also "speaks" not infrequently in anapests during the course of a tragedy, often in connection with a choral song; this is sometimes called "recitative anapests," but it is not known whether such verses were spoken or chanted,[20] or if they may have had instrumental accompaniment.

Sung or melic anapests can convey intense emotion, as at the beginning of Sophocles's Electra (56-120; 193-243 is heavily infused with anapest and spondee), and in the lament of the returning, defeated Xerxes, with the chorus of elders, in Aeschylus's Persians (909-49), a passage with irregular phrase-lengths and anapests of four short syllables, which contribute to the powerful effect.[21]

For Aristophanes, in stark contrast, the anapest is a lively, energetic vehicle of hilarity, which he uses to build long scenes, one of which is given

in Appendix vii, below (Acharnians, 626ff.); characteristically, this scene includes a pnigos ("choker," "strangler"), a closing section in which the meter continues, but without catalexis, depriving the actor of any opportunity for a breath.[22]

• • •

Most of the compositions we have considered here are strophic, or, as in the Victory Odes (Appendix vii, below), triadic, where (except in the cases of odes comprising of a single triad, such as Olympian 11, in the Appendix) a repeating strophic pair is followed by a repeating strophic epode with its own rhythmic structure. There is also a substantial number in both tragedy and comedy, of astrophic lyric passages, some of considerable length; these can be considered genuinely free compositions. There are free solo songs, as well as astrophic scenes with an exchange (amoibaion, "alternation") between two characters, or a character and the chorus. The difficulty that such free composition creates for us today is the lack of information from strophic metrical responsion (the repetition of the meter) that can help us identify possible problems with the meter itself, or with the text. Where the transmission of the text of an astrophic song is uncertain (as, for example, in the final scene of Aristophanes's Lysistrata), different scholars will propose different solutions, and on one or another of these the musical reconstruction and performance will have to rely.[23]

• • •

Nothing has been said about tempo since the suggestions for the pace of epic in Chapter 4, above. Dialogue in tragedy probably was a bit slower and more deliberate than natural speech; that of comedy must often have been rapid-fire. The sung and danced lyric movements need to find their own natural, steady tempo; solo lyric has perhaps a small degree of freedom except if danced. There is no way to prescribe a precise tempo: the right one will declare itself with practice and experience--memorization, too: neither too slow nor too fast. William Blake's advice applies here: the deliberate, practical knowledge of too fast and too slow is an important key to the tempo giusto.

Synthesis in the Choral Ode

The choral ode of Sophocles that follows--"the most famous of his songs"--is the 90-year-old composer's evocation of his birthplace, Colonus, a district then on the outskirts of Athens, to whose groves sacred to the Eumenides and Dionysus Oedipus has come, and where his mysterious disappearance--perhaps a sort of apotheosis--is reported at the drama's close.[24] Here the chorus receives the aged wanderer, "a pitiful ghost of a man" (<u>andròs áthlion eídōlon</u>, 109-10), led + by his daughter Antigone, the fear and hostility expressed earlier having been calmed by the intervention of Theseus, Athens's king, who through prophecies believes that Oedipus, in his final resting-place at Colonus, will bring a future benefit to Athens. This extraordinary composition is treated as music here; there are eloquent studies of its literary qualities.[25]

The music of this ode is unusually free of rhythmic or metrical complications: it is straightforward, graceful, and perfectly balanced. The first strophic pair is composed mainly in regular glyconics, with a few variations, the second in ionic and iambic metra. This final musical example is one of the easiest here, in fact, to grasp rhythmically and to sing; Scott justly describes its musical structure (reflecting its dramatic circumstances) as one of "pervasive order,"[26] and the rhythmic clarity and beauty of language make this chorus a particularly rewarding study in musical reconstruction.

There are perceptible clues to the organic unity of this movement, relationships among the rhythms--treated as separate elements in metrical analysis--that are embodied in Sophocles's composition. In the second strophic pair, the glyconics of the first metamorphose into ionics: for example,

– – – ⏑ ⏑ – –
éstin d' hoîon egō̂ gā̂s ...

of line 694 almost completes a glyconic colon, but then, with <u>Asíās ouk</u> (⏑ ⏑ – –), and then <u>epakoúō</u> (⏑ ⏑ – –), the ear senses a retrospective mutation of glyconics into the beginning of an ionic series. And in the final line, <u>Nērē̂idōn akólouthos</u> (– – – ⏑ ⏑ – –), do we hear two ionic metra (⏑⏑ contracted to –), or a catalectic glyconic? And what of the seemingly disconnected iambic rhythms of 699/712? A key here seems to be the figure ⏑ – ⏑ – – , used in the construction of six lines altogether (first at

698: phúteum' akheírō|ton autopoión), that may well have suggested to the ancient Greek ear the familiar anaclastic variation of Anacreon's ionics (above, p.101ff.), ⏑⏑–⏑–⏑––, where a long and a short exchange places.[27] The indissoluble unity of such a composition as this comes in large part from rhythmic interpenetration, fluidity, and even rhythmic ambiguity.[28] Rhythms and word-melodies of lyric compositions are shaped by the composer's words, and these in turn are shaped by their own rhythmic and prosodic figures in mutual reflections and resonances that become their music.

Reconstruction and performance notes: The Greek text (as with the preceding passages from Sophocles) follows that of Lloyd-Jones and Wilson (Oxford, 1990). Due to limitations of space, the first strophic pair is given only in transliteration, the second only in Greek orthography, and several pairs of lines have been written as single lines: 672-3/685-6, 674-5/687-8, 704-5/717-8. The rests after 686, 676/689, 679/692, 714, and 716 are more rhetorical than syntactic, but are, I think, easily accommodated by the text, except perhaps at 691-2, where there is an unresolved textual question (and where I follow Pearson's 1924 edition). The final foot of the dactylic line 676/689 is altered by my rest at line-end from —⏑⏑ to —⏑— ; with the rest, the rhythm changes from dactyl ♩ ♫ to epitrite ♩ ♭♩ 𝄾 ; as a result, the final syllable of epinísetai (689) is not shortened by correption, and anhálion (676) ends with a semivowel diphthong. (Cf. similar diphthongal lengthening in the final syllables of 686, 698, 711, 714 and 716; for this effect, see above, p.42, note on lines 448, 449, and p.23 .)

My tabulation of accentual responsion (the coincidence of accents in corresponding lines of strophe and antistrophe) for this chorus gives nearly the lowest rate, 40%, of any of the strophic works I compared, barely above the putative "random" correlation of ca. 35% (see Appendix vi, below). The composer has nevertheless not created insurmountable obstacles to a convincing melodic realization, although there are a few awkward moments, most of all the displacement of the melodic apex at the end of 678 in the strophe (bacchió-) to the beginning of the antistrophe's next line, 692 (Mou/sân). At the end of 718, I propose

notes continue on p.160

+ Sophocles Oedipus at Colonus, 681-719

d e f a b♭ b d' (e')
7 1 2 4 5b 5 7 (1)

Strophe 1

1 4 5 4 54 575 4 5 4 5 4 54 4 57
euhíppou, xéne, tâsde khṓ-
Of fine horses, stranger, is this place gly

4 57 4 1 2 1 2 42 4 2 1
rās hīkou tà krátista gâs épaula,
to which you have come, noblest of the land's homes: phal

2 12 421 1 2 4 54
tòn argêta Kolōnón, ént'
bright Colonus, where 670 gly

24 5 4 4 5 57 5 4
hā lígeia minýretai
with clear-voiced song gly

5 7 54 2 4 2 12 12 1 21 7 1 24 1 42
thamízousa málist' aēdòn khlōraîs hupò bā́ssais, ∧
frequents especially the nightingale, beneath green glades, gly+pher

4 2 12 4 5 4 2 1 21 12 12 4 2 4 454
tòn oinōpòn ékhousa kissòn kaì tàn ábaton theoû
with wine-dark ivy and the goddess's untouched 674-5 2 gly

24 5 4 4 45 4 2 1 127 1 21
phulláda mūriókarpon anhā́lion ∧
verdure, rich in fruit, from sun protected 4 dact

7 711 21 1 24 1
anēnemón te pántōn
and from winds of all ia ba

12 24 1 4 2 4 557
kheimṓnōn; hín' ho bakkhiṓ-
winter storms; and where bacchic gly

4 224 5 7 5 4 45 4 57 5 42
tās aeì Diónūsos embateúei ∧
Dionysus ever roves, phal

12 1 1 7 1 21 1 24 1 7124 1 21242
theíais amphipolôn tithēnais.
of the goddesses the companion, who were his nurses. 680 hipp

Antistrophe 1

45 4 4 4 54 5 7
thállei d' ouraníās hup' á-

And (where) flourish, with heaven's

4 5 5 7 5 4 2 42 2 1 12
khnās hó kallíbotrus kat' êmar aieì

dew, lovely clusters, ever daily,

24 2 1 2 4 24 454
narkissos, megálain theaîn

of the narcissus, the two great goddesses' [Demeter and Persephone]

24 544 5 7 4 5 4
arkhaîon stephánōm', hó te

ancient crown, and the

5 4 45 7 5 42 2 1 1 21 7 1 4 2 1 42
khrūsaugès krókos; oud' áhupnoi krênai minúthousin ∧ 685-6

gold-gleaming crocus. Nor do the sleepless springs

1 12 42 4 5 4 2 4 21 12 424 4 45 4 4
Kephīsoû nomádes rheéthrōn, all' aièn ep' émati

lessen the (river) Cephisus's wandering flow, but always each day

24 4 5 4 4 542 1 1 127 1 21
ōkutókos pedíōn epinísetai ∧

swift to birth crops, they the plains water,

7 712 1 1 24 1
akērátōi xùn ómbrōi 690

with untainted moisture,

12 24 1 2 4 4 5 45
sternoúkhou khthonós; oudè Mou-

of the broad-breasted earth. Nor do the Mu-

75 4 24 5 4 5 7 5 4 45 75 42
sân khoroí nin apestúgēsan, oud' aû ∧

ses' choruses spurn it, nor, in (her) turn,

17 1 12 11 2 124 1 71241 24545
hā khrūshánios Aphrodítā.

Aphrodite of the golden reins.

Strophe 2

7 5b4 5b44 2 24 5b4 1 2 17 1 2 1 24 1
ἔστιν δ' οἷον ἐγὼ γᾶς Ἀσίᾱς οὐκ ἐπακούω, 695 4 ion
But there is such a thing I have not heard exists in Asian lands,

5b4 4 5b4 5b 7 4 24 5b 4 24 2 2 7 1
οὐδ' ἐν τᾶι μεγάλαι Δωρίδι νάσωι Πέλοπος 5 ion
nor on the great Dorian island of Pelops,

12 1 2 7 1
πώποτε βλαστὸμ
a tree never yet

5b 4 4 57 5b 4 24 4 4 5b4 5b4
φῦτευμ' ἀχείρωτον αὐτοπολόν, ^ ia cr ba
raised by human hand, but created of itself-- [ia lek cat]

54 75 7 5b 4 5 7 5b4
ἐγχέων φόβημα δᾱΐων, 2 ia
to their spears, a terror of enemies--

5 75 5b 45b 4 7 5 4 24 4
ὃ τᾶιδε θάλλει μέγιστα χώραι, 700 ia cr ba
that flourishes strongly in this land,

4 54 2 1 2 1 42 1 7 12 1 4217121
γλαυκᾶς παιδοτρόφου φύλλον ἐλαίᾱς. ^ 3 ion
the gray-green, child-nurturing leaf of the olive.

4 5b4 4 2 24 5b 2 4 12 1
τὸ μέν τις οὐ νέαρὸς οὐδὲ γήρᾳ ia cr ba
This shall no youth, nor one who with old age

71 12 17 1 2 24 2 1 2 24 1 7112
συναίων ἀλιώσει χερὶ πέρσᾱς· ^ 3 ion
lives, destroy by hand of violence:

2 12 4 4 5b4 7 5 71 75 75b 4 542 1 2
\+ ὁ δ' αἰὲν ὁρῶν κύκλος λεύσσει νιν Μορίου Διὸς 704-5 tel+gly
and it is ever with watchful eye looked after by Zeus Morios

17 12 42 2 1 24 1 7121241245
καὶ γλαυκῶπις Ἀθάνᾱ. pher [2 ion?]
and by gray-eyed Athena.

Antistrophe 2

75b 5b4 5b4 4 4 2 17 1 2 1 21 2 4 2 1
ἄλλον δ' αἶνον ἔχω μᾶτροπόλει τᾶιδε κράτιστον,
And more praise have I for this (our) mother-city, strong (praise)—

5b4 4 5b4 5b 7 4 45b 4 2 2 42 7 1
δῶρον τοῦ μεγάλου δαίμονος, εἰπεῖν, <χθονὸς>
gift of the great gods: to tell the land's

12 1 1 2 7 1
αὔχημα μέγιστον,
pride supreme,

45b 4 4 57 5b 4 24 5b 4 4 5b4
εὔιππον, εὔπωλον, εὐθάλασσον. ∧
pride of horses, pride of colts, pride of the sea.

54 75 7 5b4 5 75 5b 4
ὦ παῖ Κρόνου, σὺ γάρ νιν ἐς
For you, o son of Kronos,

5 75 5b 45b 4 7 5 4 2 24
τόδ' εἶσας αὔχημ', ἄναξ Ποσειδάν,
bestowed this pride, Lord Poseidon,

5 4 21 2 1 2 42 1 7 1 21 4217121
ἱππόλοισιν τὸν ἀκέστῆρα χαλινόν ∧
and for horses, the taming bridle

45b 42 4 42 2 5b 42 1 1 21
πρώταισι ταῖσδε κτίσας ἀγυιαῖς.
(you) were first to create in these roads,

7 17 12 1 1 4 2 1 2 42 1 7112
ἃ δ' εὐήρετμος ἔκπαγλα χοροῖσιν ∧
and the oar, fitted to the hand,

\+ 2 1 2 4 5b 4 7 5 71 75 75b 4 5 54 2 1
παραπεπτομέναις πλάταις θρώισκει τὰν ἑκατομπόδων
speeding along the main, races, as the hundred-footed

17 14 21 2 4 2 1 7 55b4217121
Νηρήιδων ἀκόλουθος.
Nereids lead.

Ἀν. ὦ πλεῖστ' ἐπαίνοις εὐλογούμενον πέδον, . . .

hekatómpódon as an example of the melodic treatment of a secondary accent.[29]

Among possible textual correspondences, I would suggest special melodic treatment for bakkhió/tas aei ..., 678-9 with oudè Mou/sân khoroí ..., 691-2; mégista khórai, 700, with ánax Poseidán, 713; and names and epithets in 705-6 = 718-19.

The musical scale here is a composite: an enharmonic trichord below a conjunct chromatic tetrachord (see The Ancient Greek Pitch System, above, p.52-3). My choice, like all those in these examples, was arrived at through considerable experiment and thought, but ultimately relied on what my 21st-century ears found most fitting. The tuning that sounds best to those same ears is not (quite) one of those enumerated by the ancient theorists: it locates b♭ and f as pure (5:4) major thirds to d and a in a series of three fifths (3:2); schematically,

with the scale d 9:8 e 16:15 f 5:4 a 16:15 b♭ 135:128 b 32:27 d'.[30]

NOTES (Lyric Composition 2)

1. The reportedly longest extant strophe--14 lines--is found in Alcman's fragment 1 (the "Louvre Partheneion"), GL 2, p.360ff. The beauties of the lyric works of Alcman and Stesichorus call out for music, but I have regretfully concluded that they are too fragmentary for musical reconstruction.

2. Again, I recommend practicing both singing and speaking tragic trimeter, with the goal of achieving an elevated, but not unnatural, style of delivery (p.89, above).

3. An elision can, very rarely, be interrupted by a change of character, as in this moment in Sophocles's Electra (1502):

Orestes. all' hérp' ; Aegisthus. huphēgoû. Or. soì badisteóm páros.
(Unelided: allà hérpe.)

4. In indoeuropean verse generally, caesura regularly occurs before or (more frequently) after the fifth position in a line.

5. See $LMGD_2$, Ch.5, p.69-75; GM, p.35, 49, 51. A modern theory of epiplokē that applies it to a wide range of metrical structures and specific lyric compositions, from Alcman through Aristophanes, is proposed by Thomas Cole, in his Epiploke: Rhythmical Continuity and Poetic Structure in Greek Lyric (Dept. of Classics, Harvard Univ., 1988), recommended for the study of metrical theory. (Review with summary of Cole's theory and its application: K. Itsumi, Classical Review 39 (1990), p.176-7.)

6. The internal anceps seems most often to be treated as short.

7. "The ithyphallic was so called because of its use in the Dionysiac [phallagonia] ..., the ritual from which Aristotle derives comedy" (GM, p.970, and was "[n]amed for the erect phallus which [was] escorted into the theatre" GL 5, p.236, n.1.

8. Cf., for example, Agamemnon 403-32, and a good many other choral songs of the Oresteia. lek is the standard abbreviation for lecythion/lekuthion; sp is spondee.

9. The metricians referred to a cretic with one long or the other resolved (or both) as paeonic (from paian, or hymn to Apollo); see GM, p.54-5, 106-8; AGM, p.140-3; cf. SA, p.40-7, and OCD_3, p.972-3. The other frequently encountered and important five-chronos foot is the bacchiac (or baccheic, abbreviated ba) ⏑ – – ; it is not an independent metrical figure, but occurs in conjunction with iambic metra as a rule; it is identical with the syncopated iamb ⏑ – – ∧ ($ia_{\wedge}$).

10. The Hymns are transcribed, with commentary, in DAGM (p.62-95) and AGM, p.288-301. See also GM, p.54-5, 108.

11. DAGM, p.72.

12. The standard sign for dochmiac is the delta, δ, and its traditional Anglo-American classroom mnemonic is "The wise kangaroos." It may be that its somewhat familiar sound results from the ubiquitous jazz subdivision (with African origins) of the eight eighth-notes of 4/4 meter as 3 + 3 + 2.

Systematic treatment, with references to many examples, of all the lyric meters here can be found in AGM, p.135-50; GM, p.98-137; IGM, p.50-67; SA, p.27-90. Dale gives much fuller consideration in the various chapters of $LMGD_2$, and in Chapers 4-6 ("The Metrical Units of Greek Lyric Verse") of her Collected Papers

(Cambridge, 1969). Parker's survey in OCD_3, mentioned earlier, is both succinct and comprehensive. Cf. also AQ's ancient survey, De musica 1.23-7, 45.18-52-25, GMW 2, p.451-7. (For the "D" in Scott's added analysis, see above, p.122.)

13. The text of this line, which is disputed, is from West's edition of Aeschylus (Teubner/DeGruyter, 1998). Dochmiac with an initial long ("drag-in"), and ending with two longs ("drag-out"): GM, p.108ff.

14. Archilochus's frr.188-92 exhibit an evidently favorite pairing of dactyls with iambic/trochaic rhythms. Cf. also Horace, Odes 1.4, in imitation of Archilochus. Anacreontic prototypes are frr.385-6, GL 2, p.74.

Some of the confusion over the choriambic dimeter goes back to the mighty German classicist Ulrich von Wilamowitz-Moellendorff, who in his Griechische Verskunst (Greek Meter) of 1921 (the details are at SA, p.82) referred, perhaps in a moment of carelessness, to the combination of either an iambic or trochaic metron with a choriamb as a choriambic dimeter. Into this confusion some metricists introduce, in what seems a desperate measure, a category called "polyschematist," which need not concern us. (West, GM, p.198, s.v., and 193, under "choriamb," sorts these out as clearly as could be done.) It should be pointed out that of the glyconic forms above, p.121, the two anaclastic glyconics are identical with some of the "choriambic dimeter" permutations, though context plays an important part in how they are heard. In his Sophocles analyses, William Scott (Musical Design in Sophoclean Theater (University Press of New England, 1996)) uses the abbreviation "ch dim" (or "chor d," "ch d") for all its sub-types; in his Aeschylus edition, West (above, note 13) treats the halves of the line as independent: "ch ia," for example. See Parker's thorough treatment, SA, p.78-84, and, very briefly, OCD_3, p.974: also GM, p.193, IGM, p.86, $LMGD_2$, p.133-6.

15. Another chorus from Sophocles with a brief, expressive passage of cho dim is in the parhodos of Philoctetes, third strophic pair, 202-18. The construction is evidently absent from the Oresteia, its main appearance in Aeschylus being in the Supplices (Suppliant Women), parhodos, 96-111. There are longer passages of cho dim in Aristophanes's Clouds (949-57 = 1024-33), where it occurs "in homogeneous

blocks" (SA, p.84).

16. On the aristophanean clausula (cadence) in particular, GM, p.100-1, 113, 126; SA, p.82-3. In this chapter's musical examples from Sophocles, the metrical analysis given is from Scott, op. cit., above, note 14.

17. Aristotle (Poetics 1459b) called it the "steadiest and most dignified" (stasimōtaton kai onkōdestaton) of meters.

18. Aeschylus's anaclasis is in this chorus more varied than Anacreon's. Parker (SA, p.63): "The incidence of the [ionic] metre in tragedy gives some support to the idea that ionic was thought of as a suitable rhythm for orientals. ... [T]he largest concentration of ionics in Euripides is in Ba[cchae], where the Asian bacchants use undiluted ionic stanzas repeatedly in the first half of the play." Anacreon was from Teos, on the coast of Asia Minor, and composed mainly on the island of Samos, arguably "Eastern." One can easily imagine a rhythmic connection with some older, local musical styles.

19. Origins of the "marching" anapest, which on the stage would better be called "walking" or "ambulatory", GM, p.53-4: "One step must have been made on each princeps [regular long position] and in the pause at the end of each verse." (It's not what most people would guess, if West is right; try it.) See also "Marching Choruses? Choral Performance in Athens," by Marcel Lysgaard Lech, Greek, Roman and Byzantine Studies 49 (2009), p.343-61.

20. These anapests call for the collective voice of the chorus. Individual voices of the chorus, including the most prominent, that of the Chorus Leader (coryphaeus), as part of the dramatic dialogue, normally speak in iambic trimeter.

21. From 922 the choral part changes to the Doric dialect, probably signalling that this passage is to be sung rather than declaimed; see GM, p.121-2, IGM, p.60f.; SA, p.57-8.

22. Another such long anapestic scene with pnigos occurs between Strepsiades and Socrates in Aristophanes's Clouds, 314-456.

23. There seems to be but one free choral passage in Aeschylus, Eumenides 254-75 (using mostly dochmiac and iambic rhythms), although his non-repeating epodes and mesodes can also be thought of as "free." There are striking astrophic passages

in Sophocles: Philoctetes, 1069-1217 (Philoctetes and the chorus), and Oedipus at Colonus, 207-53. Aristophanes is rich in astrophic song; perhaps the longest example contains the solo songs, with dances, of the Athenian and the Spartan (the latter in Laconian dialect) at the close of Lysistrata, 1247-1321 (cf. Parker's analysis, SA, p.384-95). In Frogs, the contest of Aeschylus and Euripides is largely free: 1251-1363, with interruptions of trimeter dialogue. The "Frogs' Chorus," 209-67, is also astrophic; and the astrophic aria of the Hoopoe, Birds 229-59, is famous for its wealth of rhythmic diversity (SA, p.297-303).

Free composition became something of a hallmark of the New Music of the later fifth century and beyond, with a decline in strophic form, for instance in Timotheus's Persians (sometime around 400 BCE; GL5, p.90-111), which seems at times (as do other poems of this era) nearly chaotic; melody must have held such compositions together.

24. "Colonus, a small Attic deme [community] 1½ mi. north of the Acropolis, near Plato's Academy. The deme seems to have been particularly rich in sanctuaries of the gods (Poseidon Hippios, Athena Hippia, and probably Demeter and the Eumenides [Erinyes, or Furies]...)" (OCD_3, p.365). "Most famous": R.P. Winnington-Ingram, Sophocles: An Interpretation (Cambridge U. Pr., 1980), p.251.

25. The key words and images of this chorus and what they may have meant to the play's Athenian audiences are lucidly glossed in The Chorus in Sophocles' Tragedies, by R.W. Burton (Oxford: Clarendon Pr., 1980), which also points out some of the ode's remarkable syntactic composition. Also, for the language of this ode, see the commentary by Richard Jebb, in his edition (1900_3/R1976) of the play. Sophocles's dramas have been studied from almost every point of view. Among the best from the classical scholar's vantage-point, one might mention Winnington-Ingram's monograph (preceding note), and Bernard Knox's The Heroic Temper: Studies in Sophoclean Tragedy (Sather Classical Lectures; Univ. of California Pr., 1964), as well as his splendid introductory essay to the play in Sophocles: The Three Theban Plays (Penguin Classics, 1982); also recommended is Scott's analysis of this scene, op. cit. (above, note 14), p.230-2.

26. Scott, op.cit., p.232 (above, note 14).

27. The signal feature of lines 698/711, 700/713 and 702/715, although they are analyzed as "ia cr ba" (or, alternatively, "ia lek cat"), is their symmetry: each consists of--and I hear as--two identical half-lines ×⏑–⏑–––. This figure, the + iambic penthemimer ("five halves" of a metron), mentioned by AQ (49.1, GMW, p.453-4), sometimes serves as a modern analytic expedient (see GM, p.xii, 32); neither $LMGD_2$ nor Maas seem to mention it. Hephaestion's penthemimer (p.140, note 32, above) is dactylic, and the ancient usage appears to indicate not an analytic unit, but the position of a caesura. In any case, these lines could not have been composed, in the context in which they occur, as the analysis suggests.

A cursory search for examples of this line (whose rhythm is fixed in my mind as "ánax Poseidán") found no examples in Aeschylus, but there are about a dozen, mostly pairs, in Sophocles. In Oedipus at Colonus, 1567/1578, the dochmiac context emphasizes the (coincidental) similarity of the figure to the dochmiac metron.

28. Particularly admirable in the analyses in $LMGD_2$ is the author's frequent attention to the role of ambiguity in rhythmic composition. On p.128, for example, she writes, "The sporadic use of ionic is a subject fraught with difficulty because of the ambiguity... between ionic and aeolic rhythm and sometimes also between meters which for convenience I have classified under the general head of 'dactylo-epitrite'" (in her Chapter XI, especially).

29. Cf. Devine and Stephens, op. cit. (above, p.24, n.1), p.350-1, "Polytonicity."

30. Several ancient tunings are possible, the most obvious being the simple Platonic, with pure (3:2) fifths, b♭ - f - (c) - (g) - d - a - e - b , which involves (for the lyre) tuning and retuning two notes not in the scale (though not on the aulos, on which all the ancient gamut's pitches are available). If the b of my tuning above is lowered by a comma, the tetrachord will be that of Didymus and Eratosthenes (see Appendix i, below, and GMW 2, p.348), with a soft-chromatic leading interval of 6:5. To my ear, the resulting a - b (lesser) tone, 10:9, is to my ear too "soft." The a - b♭ semitone diesis can be be replaced with that of Archytas, 28:27, giving his chromatic; the most direct way to obtain the required (lower) b♭ would be as a 7:6 septimal minor third with the Platonic (g) above.

(no text)

ENVOI

Invite Time's help and, most of all, the Muses':
Clío, Giving Fame; Eutérpe, Delightful;
Thalía, Blooming; Melpómene, Singing;
Terpsíchore, The Enjoyment of the Dance;
Érato, Lovely; Polhýmnia, Much Song;
Ouránia, Heavenly; Çallíope,
Beautiful of Voice--"and she greatest of all";*
and their all-embracing Mother, Memory,
Mnemósyne, who may give "forgetfulness
of evils and relief from anxieties":*
"With them, we must throw open the gates of song!"**

---

*hē dè propherestátē estìn hapaséōn/ ...
lēsmosúnēn te kakṑn ámpaurá te mermēráōn ...
(Hesiod, Theogony 75-9, 54-5)

**khrè̀ ... púlas húmnōn anapitnámen autaîs[.]
(Pindar, Sixth Olympian Ode, 27)

APPENDICES

Appendix i: Tuning Procedures

For the tuning procedures here I rely on the authority of Plato (Timaeus) and Euclid (Sectio canonis) for the establishment of a Method of Consonances or Concords (lēpsis dia sumphōnias, literally "the obtaining [of an interval] through [the tuning of] concords"), using for tuning the epimoric (superparticular) intervals 2:1, 3:2, 4:3 (the Greeks' primary concords), as well as 5:4, 6:5 and 7:6, as found in Ptolemy's Harmonics. Euclid authorizes the tuning of the primary concords, but other intervals had to be tuned in order to arrive at the various tetrachordal divisions reported (mainly) by Ptolemy.[1] I interpret another part of the Sectio canonis as approving some epimoric intervals as a sort of "lesser concord" (my term) capable of making a single blend (mian krasin) out of two pitches, as concordance is defined.[2] (Epimoric ratios are of the nature of (n + 1)/n.)

The two inviolable principles for all the tunings in this volume are: (1) their starting-note is mesē, given here conventionally (and arbitrarily) as the pitch a (220 Hz); mesē is fixed and immovable here, and--as the Greeks seem to regard it--not to be retuned. And (2) all tunings can be and are meant to be tuned by ear only, by the Method of Concords, which is interpreted here to mean the use, only, of pure (beatless) intervals for tuning.[3] Of the non-Aristoxenian tetrachordal divisions given by Ptolemy (2.14), those that cannot be tuned by this method are: all enharmonic divisions except that of Archytas; and the chromatic division of Eratosthenes. The two divisions of Ptolemy that involve the eleventh harmonic, viz., the tense chromatic and the equable (homalon) diatonic, are exceptional and difficult, and will be treated separately below, with both a purely tuned and approximate version of each. (As explained in Appendix iv, below, no tetrachordal division of Aristoxenus can be tuned accurately by ear.) For the inexperienced, and for the more difficult tunings, the use of a monochord or electronic tuner may be helpful. All the tunings here are for a lyre or other, similar stringed instrument.

The ancient practice of tuning a series of pure fourths (4:3) and fifths (3:2) will produce the minor-third pentatonic as well as diatonic modes. The pentatonic scales on p.65 above are such modes, and are tuned as follows:

I Phrygian scale	g - d - a - e - b
II	f - c - g - d - a
III	d - a - e - b - f#
IV	c - g - d - a - e
V	a - e - b - f# - c#

To recapitulate the tuning procedure on p.61, above--but here with pure intervals: the Aristoxenian equal-temperament fourths and fifths will not give us the desired result: begin with the nominal mesē of a; from here tune a fifth up to e', down a fourth to b, tuning a-d'-g in a similar sequence, finally tuning the octaves e'-e and d'-d. The seven-tone scale that has been tuned is d-e-g-a-b-d'-e'.

For a diatonic scale, a sequence would be

f - c - g - d - a - e - b;

these pitches, rearranged in a scale (as in the preceding pentatonic example), can be cycled into seven distinct heptatonic sequences. This procedure gives the so-called Pythagorean tetrachord of Plato's Timaeus, consisting of two 9:8 whole tones and a 256:243 leimma ("remainder"), an interval we classify as a semitone.[4]

The question of how to tune the major-third (ditone) pentatonic intervals in my Homer tuning and the Dorian scale (including the gap in the fourths-fifths series for the Dorian trichord, f - (c) - (g) - d - a - e), is addressed above in Tuning Methods, p.62-3. The characteristic interval of the enharmonic (Dorian) trichord is the major third or ditone, and whether one chooses the narrow, sweet 5:4 interval, the rather austere 81:64 Pythagorean ditone, or the severe, even astringent (to my ear) 9:7 interval will result in dramatically different melodic affect. (Some experiments in intervallic affect are suggested below.) This choice is for me rather like that of Goldilocks, in that I find for most Dorian music, including Homer, the 81:64 ditone gives the best melodic affect.

The character of the two Lydian tunings and their repertoire (selected of course with affect in mind) need, I find, the more harmonious 5:4 major third, and I tune the Lydian ② (p.56) as

a - e - b
f - c

where--using an interval lattice--the vertical space represents the 5:4 interval and the horizontal the 3:2.

Similar is the tuning for the low Lydian ③ , p.57:

g - d - a
| |
e♭ - b♭.

In addition to the 5:4 major third, the scale intervals in these Lydian tunings are a 9:8 tone and 16:15 "semitones."

The Mixolydian scale for the Sappho fragment on p.107-9, above (cf.p.68-9, n.13; the Sappho composition in Appendix v, below, has a special tuning given there), can best be tuned in either of the following schemata:

g - d - a - e or d - a - e
| | | |
b♭ - f b♭ - f - (c) - g.

The first tuning gives the sequence of whole tones f 10:9 g 9:8 a, while the second gives f 9:8 g 10:9 a, with noticeably different melodic effect. Note that in the second, it is not necessary to tune the missing c; instead, simply tune g above e as a pure 6:5 minor third.

The Tetrachords of Archytas

The intervals of the tetrachords of Archytas gain their credibility as intervals of actual musical practice through their citation by Ptolemy, as well as by their close approximation in some of Aristoxenus's divisions. They are also tunable by ear without much difficulty, and sound (to me) excellent in melody. The rather strange dual nature of Archytas's diesis of 28:27 (63 cents, about a third of a tone) must be mentioned; in the context of his enharmonic genus it is to the ear clearly about a half a semitone, while in the chromatic and diatonic genera it is heard no less clearly as a semitone (though a narrow one).[5]

For all three tetrachords, first tune d - a - e (hyperhypatē-mesē-hypatē) as a pure fifth and fourth; then tune the 28:27 diesis, d to e♯, as a septimal minor third, 7:6.[6] (The semisharp ♯ raises the pitch a quarter to a third of a tone. I use e♯ as parhypatē in all three Archytan divisions, as it is an invariant pitch, and it follows the practice of the ancient notations, for which see below, Appendix iii, p.190-4.) Then,

•for the enharmonic, set f to a as a 5:4 major third, giving (with ratios and (cents values))

e 28:27 e♯ 36:35 f 5:4 a;
(63) (49) (386)

•for the chromatic, tune b (paramesē) a pure fifth 3:2 above e (hypatē), then f# a pure fourth 4:3 below b (the note paramesē must be used to tune this tetrachord), giving

e 28:27 e♯ 243:224 f# 32:27 a;
(63) (141) (294)

•for the diatonic, tune g a pure fourth 4:3 above d, giving

e 28:27 e♯ 8:7 g 9:8 a.
(63) (231) (204)

The Tetrachords of Ptolemy

Ptolemy's tetrachordal tunings are mostly practical,[7] though his enharmonic, like all those but Archytas's, is not tunable accurately by ear.

His soft chromatic tetrachord shares the Archytan 28:27 diesis (tuned as above): otherwise, only the 6:5 minor third from a to f# must be tuned, giving the intervals

e 28:27 e♯ 25:24 f# 6:5 a.
(63) (71) (316)

His (in)tense chromatic is difficult to tune, and includes the midtone (3/4 tone) 12:11; two tuning procedures are given below.[8]

All his diatonic divisions can be readily tuned by ear, except the even or equable (homalon) diatonic (below). The ditonic diatonic is the "Pythagorean" diatonic, tuned by pure fourths-fifths, as illustrated above. (It is the only Greek tetrachordal division with a duplicated ratio, here 9:8.) The tonic diatonic is identical with the diatonic division of Archytas, above. His (in)tense diatonic is gotten (again, e - a being tuned pure) by tuning f as a 5:4 major third below a; from the f a string must be tuned pure to c, from which g (a tone above the f) is tuned pure; the resulting tetrachord is

e 16:15 f 9:8 g 10:9 a.

(This tuning is the traditional intonational basis of the just-intonation C-major scale, as cited--usually as "syntonic diatonic"--by the Renaissance theorists.)[9]

The interval ratios are not, as some scholars may believe, arithmetic abstractions, but rather acoustic abstractions: distinct sonorities, easily, precisely and repeatably tunable and identifiable, that are the intervallic building-blocks of modal systems and melody. Aristoxenus is our earliest important source of Greek music theory, but in my view his unique (if extremely ingenious) system of interval measurement, combined with our habituation to the Aristoxenian system of twelve-tone equal temperament, has been overemphasized by us moderns, leading us to value his method of linear reckoning of interval size over the precision of the ratios of the justly tuned intervals that were, I believe, the basis of the best of actual Greek practice. (West, for example--AGM, 167--writes of the ratios, "The precision is specious.")

• • •

For all his care to distinguish the shades of the chromatic and diatonic genera by their tuning-ratios, Ptolemy's description of a practical discrepancy, in Book 1, Ch.16 (GMW 2, 313), between vocal and instrumental notation is rather jarring: he claims that in some modes, the kitharodes (singers who accompany themselves on the kithara) "sing in accordance with the tense diatonic," but that they actually tune their instruments to the ditone diatonic--yet, he writes, there is in practice "no noticeable difference" (tôi mēdenì axiológōi diaphérein), nor "does any noticeable offense (proskopḗ) arise" from the intonational discrepancy.[10] The kithara is tuned to the ditone diatonic no doubt because it is the easiest diatonic to set. A glaring intonational clash between voice and instrument seems not to arise, however, in Ptolemy's example, because (1) the timbre of lyre-type instruments is largely devoid of the strong higher harmonics that reveal intonational disagreements; and (2) the sound of a plucked string usually dies away quickly, removing any possible intonational clash as its sound vanishes. It is worth mentioning that this makes lyres and their relatives as much percussion as melodic instruments, delineating the rhythm with the plucked string's attack transients.[11]

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Ptolemy's Elevens and the Spondeion Mode

Ptolemy's (in)tense chromatic and equable (homalon) diatonic tunings can be set by two methods, one precise and the other approximate. (Ptolemy does not divulge his method for tuning his eleven-based intervals.) First, the accurate tuning for the chromatic: starting with mesē, a, tune e as usual, then f♯ a 7:6 minor third below a. (The sign ♯ indicates a sesquisharp, or sharp-and-a-half, about a 3/4-tone interval.) Tune the hyperhypatē (d) string to b♮, a pure fifth below f♯. Then tune f as a pure 11:8 semiaugmented fourth above b♮ (which can now be returned to its normal pitch). The resulting tetrachord is

e	22:21	f	12:11	f♯	7:6	a.
	(81)		(151)		(267)	

To tune the equable diatonic exactly, begin with a-e; tune g to e as a pure 6:5 minor third, and b (paramesē) a pure fifth above e; finally, tune f♮ below b as a pure 11:8 semiaugmented fourth. The tetrachord will be

e	12:11	f♮	11:10	g	10:9	a.
	(151)		(165)		(182)	

(This series of intervals, adding paramesē (b) a 9:8 tone above a, is the inversion of the intervals of the harmonic series between harmonics 9 and 12.)

The approximations to these tunings can be done fairly easily, and require tuning as closely as possible by ear a mid ("neutral") third (11:9, 347 cents). For the (in)tense chromatic, tune a-e, make f♯ a pure 7:6 below a, and tune the hyperhypatē (d) string to c♯, a 4:3 fourth below it. From that pitch, tune upward a mid third as accurately as possible: it will sound neither major nor minor (or like both simultaneously), giving us the pitch f. Similarly for the equable diatonic: set a and e, and g a 6:5 above e. Then tune f♮ as close as possible to a mid third below a.

For the spondeion mode (cf. above, p.61), which seems to have no known music connected with it, one can obtain a lower trichord e f♮ a by either of the preceding methods for tuning the equable diatonic. The simplest is the approximation of a - f♮ as a mid ("neutral") third.

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The standard general reference works on ancient Greek music are disappointing in their presentation of the tetrachordal divisions. The most nearly complete, with all the Archytan and Ptolemaic ratio-divisions given, is that of Winnington-Ingram in the 1980 New Grove ("Greece, Ancient"); Thomas Mathiesen's new treatment in NG_2 deals with the ratios incompletely, though he allows for ancient melody the presence of "the subtlest shades of pitch" (v.10, p.330, col.2). Andrew Barker, in OCD_3 (also a rewritten entry), gives no interval-ratios at all; Warren Anderson (MMAG) barely touches on the tetrachordal divisions. AGM has a complete account of the genera and shades of the tetrachords, but this is inconveniently divided between two chapters: Chapter 6, where all the tetrachordal intervals are given in Aristoxenian cents measurements; and 8, where the interval-ratios appear.

Some Experiments in Interval Affect

If you have a multi-string instrument that is easily tunable to a scale (zither, autoharp, harpsichord, etc.), you can perform a very instructive listening experiment in the interval quality or affect of the main Greek tunings. This experiment compares trichordal divisions of the perfect fourth (pure, 4:3), using the fixed pitches mesē (a) and hypatē (e), with a lichanos (see p.52-3 above) that descends from its highest pitch to lower tuned pitches. (In the construction of tetrachordal divisions, lichanos is referred to by Ptolemy as the leading (hēgoumenos) movable pitch (Harmonics 1.16, 40.8, GMW 2, 313).)

For our experiment, first tune mesē-hypatē (a - e) pure, as usual, and hyper-hypatē (d) as a pure fifth 3:2 below mesē (a); these notes are our framework. In the stages below, lichanos will be retuned, descending in pitch from one to the next. The columns give, from left to right, the mesē-lichanos ratio, the tetrachords using this ratio, the lichanos-hypatē ratio, and the differential (Δ) of these latter two ratios, with (cents value).

There are three trichords in the shades of the Diatonic Genus, with the following lichanoi:

mesē-lichanos	divisions	lichanos-hypatē	Δ	procedure
10:9	Ptolemy's tense diatonic, equable dia.	6:5	81:80 (21.5)	tune e-g as 6:5
9:8	ditone, tonic, Archytas and Didymus dia.	32:27	64:63 (27.3)	tune a-d 3:2, d-g 4:3
8:7	Pt. soft diatonic	7:6	49:48 (35.7)	tune e-g as 7:6

Next come three trichords of the Chromatic Genus, set out as the Diatonic, above.

7:6	Pt. tense chromatic	8:7	64:63 (27.3)	tune a-f# as 7:6
32:37	Archytas chromatic	9:8	81:80 (21.5)	tune b a 3:2 above e, then f# below b a 4:3
6:5	Pt. soft and Didymus chromatic	10:9	25:24 (70.7)	tune a-f# as 6:5

Finally, there are the three main trichords of the Enharmonic Genus, as above.

5:4	Dorian, Archytas enh.	16:15	81:80 (21.5)	tune a-f as 5:4
81:64	"Pythagorean" or ditone enharmonic	256:243	64:63 (27.3)	tune pure a-d-g-c-f
9:7	?Archytan ditone	28:27		tune f (e♯) to d as 7:6

The intervallic differences from one shade to the next may seem very small, but as a tuning locks into place ("blends"), a dramatic difference in affect can easily be heard. It is worth mentioning that the difference in pitch between the lichanoi of the (in)tense and soft chromatics of Ptolemy, for example, is (21.5 + 27.3 =) about 49 cents, a quarter tone.

Play and sing with each of these trichord tunings until they--and their different intervallic affect--become familiar. The Greeks regarded the effect of the higher-pitched lichanos as tense (suntonos) and the lower as softer or more relaxed (malakos, anheimenos); they seem so to me. Examples of intonational shades and associated affect in a living but ancient musical tradition can be found in the rāgas of the classical music of India (affect = rasa in Sanskrit). For instance, the interval of a whole tone between the flat seventh degree of the scale and its tonic (komal ni to sa) in the Hindustani rāga Bāgeshrī is the narrow

tone 10:9, while in rāga Bhairavī it is the wider 9:8 tone. These differences are quite dramatic to the ear. (Cf. Alain Daniélou, The Rāga-s of Northern India (Barrie & Rockliff, 1968), p.179f., 314f.)

NOTES

1. Specifically, Timaeus 80b, GMW 2, 62-3; Sectio canonis, Proposition 17, GMW 2, 203; Ptolemy, Harmonics 1.15, 34.1-10, GMW 2, 307. The ratios 7:6 and 8:7 come quite close to an equal-part division of the fourth 4:3; there are only three bipartite divisions of the fourth that are superparticular: the preceding pair; 6:5 and 10:9; and 5:4 and 16:15. What appears to be a complete list of tripartite superparticular divisions of the fourth (by I.E. Hofmann), 26 all told, is given in John Chalmers's Divisions of the Tetrachord... (Frog Peak Music, 1993; available on line), which has the clearest and most succinct presentation of the ancient Greek tetrachordal divisions I am aware of, as well as a wealth of further information over a range of history and cultures. A different, entertaining overview of Greek tunings and intonation can be found in Genesis of a Music$_2$, p.361-73, by the composer Harry Partch, who was a remarkable scholar of the subject.

2. Euclid 149, GMW 2, 193 with note 8 (kaì toùs mèn sumphónous mían krâsin tèn ex amphoîn poioûntas).

3. Aristoxenus considered that, for his purposes, slightly tempered (impure) fourths and fifths were the equivalent of the pure (beatless) intervals. This was necessary in order for him to establish an equivalency between a fourth and the sum of two and a half semitones in his ingenious system of linear interval measurement. For details of this and his fraudulent "proof" of this equivalency, see R.P. Winnington-Ingram's classic analysis, "Aristoxenus and the Intervals of Greek Music," Classical Quarterly 26 (1932), 195-208.

4. Plato's tetrachord and scale are at Timaeus 36b-36d, GMW 2, 58-61. Ernest McClain chided me (in a letter) quite rightly for referring to the tunings and scales based on fourths and fifths as "Pythagorean": they were known to other cultures long before the Greek, particularly in China and Mesopotamia.

5. On the range in size of a perceptible semitone, see the description of experiments in M. Kolinski, "Gestalt Hearing of Intervals," The Commonwealth of Music ... in Honor of Curt Sachs, ed. by G. Reese and R. Brandel (Free Press, 1965), in which it was found that under certain conditions an interval as narrow as 1/6 tone will be heard as a semitone.

6. Ptolemy's Archytan tunings: Harmonics 1.13-16, 30.5-41; 2.14, 71-75; GMW 2, 346-50. On the importance of the septimal minor third 7:6, see Winnington-Ingram, above, note 3. For the record: one tunes the disjunct and conjunct tetrachords to the same intervals to which one has tuned the mesōn tetrachord by means of pure fifths or fourths, respectively.

7. Ptolemy's string-lengths for the tetrachordal intervals of Aristoxenus are a rather notorious mathematical donnybrook that needs no explanation here. His Aristoxenian divisions are in Harmonics 2.14, 71-74, GMW 2, 347-9, with Barker's explanatory footnotes. Cf. Chalmers, Divisions ... (above, note 1), 13; and Andrew Barker, Scientific Method in Ptolemy's "Harmonics" (Cambridge U. Pr., 2000), 115-120.

8. The (in)tense chromatic is fairly close to Archytas's chromatic, which is, as noted, easy to tune; both have central intervals of a midtone, which might have been a standard feature of the chromatic genus.

9. The Zarlinian just-intonation C-major scale is

c 9:8 d 10:9 e 16:15 f 9:8 g 10:9 a 9:8 b 16:15 c'.

Gioseffo Zarlino, The Art of Counterpoint (Part Three of Le Istitutioni harmoniche, 1558), transl. by G.A. Marco and C.V. Palisca (Yale U. Pr., 1968; repr., Norton, 1976), xvi, 266.

10. Barker's translations. For axiologos perhaps "noteworthy" is more accurate (Wallis's Latin translation has notabilis).

11. I actually recommend trying this intonational deception when singing with such an instrument as the mbira that is difficult or impossible to retune to the desired intonational shade, and that has a rapid decay of sound.

Appendix ii: Rhythmics, Metrics

> eíper rhuthmós ge kaì harmonía [hépetai] lógōi, ... allà mè lógos toútois.
> Allà mến, ê d' hós, taûtá ge lógōi akolouthētéon.
>
> "if the rhythm and harmonia [follow] the words," [I said,] "but not the words them."
> "Certainly," he said, "it is they that must follow the words."
>
> Plato, Republic 400d[1]

> tás te léxeis toîs mélesin hupotáttein axioî kaì ou tà mélē taîs léxesin ...
>
> [Music] requires that the words should be subordinate to the melody, and not the melody to the words.
>
> Dionysius of Halicarnassus, On Literary Composition (late 1st century CE)[1]

In the history of Western music, words and melody have periodically exchanged places in the driver's seat. Giulio Cesare Monteverdi, describing his brother Claudio's style of madrigal composition then considered radical by some, wrote (1607) that "the harmony ... becomes the servant of the words, and the words the mistress of the harmony ...." Mozart declares the opposite (1781): "The poetry must be altogether the obedient daughter of the music."[2]

From about the middle of Greece's fifth century BCE, melody apparently began to assume the leading role in music. Plato saw what was coming, and issued warnings, quoting the elusive theorist and teacher, Damon: "People should beware of change to a new kind (eidos) of music, for they are risking change in everything (en holōi). Styles (tropoi) of music are nowhere altered without change in the most important social customs (politikôn nómōn tôn megístōn): so Damon says, and I agree."[3] The break with traditional practice brought about by what is now called the New Music was indeed revolutionary: abandonment of the strict principles of prosody and meter, celebration of melody for its own sake, and the rise of purely instrumental music, especially of the virtuosi of the aulos and kithara.[4] Among the composers of the new musical style, the most (in)famous was Timotheus (ca.450-360 BCE), notorious for his claim, "I sing not the old songs; my new ones are better. ... Away with the Muse of old!"[5]

The most prestigious practitioner of the New Music, however, was Euripides, in his later work, who for this and other "faults" was mercilessly (and accurately)

satirized by Aristophanes.[6] To elaborate on the stylistic differences we can observe in the extant examples of the New Music is unnecessary here; they are described by scholars, and include a marked loosening of the feel of rhythmic order in lyric passages, even to the point of incoherence; George Thomson wrote of a passage in Timotheus's Persians (26-31), "Here the revolution is complete: poetical beauty and rhythmic sublety, at least in so far as it is wedded to the words, have been thrown to the winds, and we are left with a mere operatic libretto."[7] The unifying element in these works must have been the music, but whether this music was beautiful, bizarre or banal we have no way of knowing, since apart from a handful of lacunose scraps of notated music, nothing has survived. And if the melodies were varied in style and relatively freely composed, we would need many different examples to guide us in our understanding and in any potential reconstruction. As it is, the New Music remains beyond our reach.[8]

• • •

Despite their distance in time of more than half a millennium from Sappho, Pindar and Aeschylus, the observations on musical practice from Dionysius, Aristides Quintilianus (hereafter AQ) and Quintilian show a great familiarity with the by then "ancient" compositions, and even suggest a continuity of performing traditions. They offer us considerable help in musical realization, especially AQ, whose generous treatment of metrics and rhythmics in the De musica are especially valuable.

Metrics, he writes, proceeds from "elements" (stoikheia), "the smallest part of articulate sound,"[9] to syllables, feet, meter, and finally to the poem itself. All of this is quite familiar from the chapters above.

Rhythmics, however, goes considerably beyond the analysis of metrics toward a coherence of its elements not just in a poem, but in the musical performance of a poem. "Rhythm," he writes, "is a systema of durations put together in some kind of order. The modifications of these durations we call arsis and thesis, and sound and silence. ... [I]t is the elements of rhythm that make clear the character of the melody, moving the mind part by part, but in an ordered way. Arsis is the upwards movement of a part of the body, thesis is the downwards movement of the same part. Rhythmics is the science of the employment of the things

we have mentioned."[10]

In the course of his seven chapters on rhythmics (1.13-19), AQ shows for each foot or metron which portion is considered the thesis, and which the arsis ("part of the body" includes the hands and arms as well as the feet), giving us necessary information for dance-steps as well as cheironomy.[11] Essential to our reconstruction--as mentioned repeatedly above--is his specification of longer and shorter rests (38.29-30.1, GMW 2, 443: leimma, the shortest "empty" (kenos) duration, and prosthesis ("addition"), a rest of twice the length of the shortest--though, as noted above, I use even longer rests than these), which are used "to fill up the rhythm" (prὸs anaplḗrōsin toû rhuthmoû), frequently that of catalectic lines (cf. above, p.90ff.). Though he specifies his empty durations as "without sound" (áneu phthóngou), it is desirable that the accompanying instruments play during the rests; the voices are silent.[12]

The earliest ancient Greek theory of rhythm we have is--as with harmonic and melodic theory (see Appendix iv, below)--from Aristoxenus, a substantial fragment of Book 2 of his Elementa rhythmica (late 4th c.). As with musical intervals and scales, Aristoxenus was attempting a systematic theory of rhythm, and established, among other things, the idea of a shortest, indivisible duration, which he called the prōtos chronos ("primary time-unit"), but which was not to be equated with the short syllable. This work has been rather neglected in modern treatments of Greek meter and rhythm, in part because certain of Aristoxenus's conceptions, such as the "irrational" (alogos) duration are difficult to interpret, and seem not to fit well with modern metrical theories.

Andrew Barker includes the complete extant text of this treatise, in translation, in GMW 2 (185-89), with a brief introduction but without commentary, in order to provide direct references for its substantial influence on AQ's treatment of rhythm. The critical edition of Lionel Pearson, Aristoxenus Elementa rhythmica (Oxford: Clarendon Pr., 1990), with Greek text and English translation, includes important supplementary material, and a valuable, extensive introduction and commentary; these latter, however, present musical interpretations of Pearson's that should, in my opinion, be considered quite skeptically. It is not clear what ancient music may have exemplified Aristoxenus's rhythmic theories, and the notated musical fragments seem to offer no clues. The later treatise of Michael Psellus

(included by Pearson, p.20-27, 67-71) helps in understanding how Aristoxenus's theories may or may not apply to our more ancient repertoire.[13]

• • •

In recent times scholars have overwhelmingly taken the metricist position (very much as described by AQ), no doubt in part due to its objective importance in aiding the establishment of sound texts in lyric compositions by the principle of responsion, the normally exact correspondence of metrical figures in strophe and antistrophe. Musical performance, it seems, has scarcely been a consideration, though the extensive metrical studies of A. Marjorie Dale in particular display an admirable application of musical intelligence and insight.[14]

There have been a few rhythmicists among modern scholars, among them the previously mentioned Lionel Pearson, whose arguments for the inclusion of rests in the rhythmic structures of lyric compositions has given welcome support to my own methods of reconstruction. Rhythmics suffered a serious setback in the later nineteenth century with the theories of J.H.H. Schmidt, a German classicist, and a few others, who proposed that Greek poetry behaved according to the principles of rhythmic regularity of Anglo-Saxon verse. Schmidt's misinterpretations became surprisingly widely accepted; they undermined the rhythmic analyses even of so distinguished a scholar as Richard Jebb, in his complete Sophocles edition, and of Basil Gildersleeve's Pindar. Schmidt's influence persists today in reprints of editions from that era, and in some grammars--Latin as well as Greek--that treat prosody.[15]

The availability to us of such modern studies of ancient Greek metrics as those of West, Parker, Dale, Maas and others is, of course, of great benefit to the pursuit of the missing music. Many editions of lyric and dramatic works now include metrical analyses.[16]

NOTES (Rhythmics, Metrics)

1. Plato: transl. Barker, GMW 1, 134; Dionysius: transl. S. Usher, LCL, vol.2, p.78-81.

2. Monteverdi: Source Readings in Music History, ed. O. Strunk (Norton, 1950), p.407; Mozart: Letter to his father of 13 October 1781 (E. Anderson, No.428, with thanks to David Eiseman for the reference).

3. Republic 424c; on Damon, cf. Appendix B, GMW 1, 168-9.

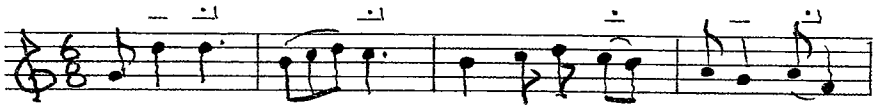
4. The New Music: AGM, chapter 12. The rhythms of autonomous melody are often relatively simple and tend to repetitiousness. Cf. Soterichus's comment, "Plutarch" 1138b-c (GMW 1, 227) that "[t]he forms of rhythmic compositions used by ancient composers were more complex, since they had a great respect for rhythmic complexity; ... nowadays people's interest is in the melody, whereas in the past they concentrated on the rhythm." (Transl. Barker; têi gàr perì tàs rhuthmopoiías poikilíai oúsēi poikiliōtérai ekhrêsanto hoi palaioí; etímōn goûn tên rhuthmikên poikilían[;] ... hoi mèn gàr nûn philomeleîs, hoi dè tóte philórrhuthmoi.)

5. Timotheus: GL 5, 70-81, AGM, 361-4. Fr.795 (GL 5, 114f.): ouk aeídō tà palaiá/ kainà gàr amà kreíssō;/ ... /apítō Moûsa palaiá.

6. Especially in the contest between Euripides and Aeschylus, Frogs 905-1471 (briefly excerpted by Barker, GMW 1, 114-16, with a commentary on p.114).

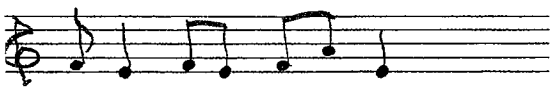
7. Greek Lyric Metre (1929; 2nd ed., Heffer & Sons, 1961); cf. "Euripides," OCD_3, p.150.

8. There is evidence of metrical lengthening to accommodate the syllabic rhythm to that of the melody; see the notated fragments in AGM, especially nos. 15, 18, 29, 32; for melodic disregard of accent, see, e.g., nos. 3 (strophic), 4, 7, 34, 42, 45, 46(c). Notational devices were invented for rests (the Λ sign that we have already seen). For the lengthening of syllables, the diseme (—) of two units, and the triseme (⌙ or ⌐) of three were commonly used, as shown in the following tune, the "Seikilos Song," an incised musical epitaph of the 2nd century CE, usually presented as "ancient Greek music," though its emphasis on triadic intervals is non-Greek:



hóson zêis phaínou, mēdèn hólōs sù lu-poû ...
While you live, shine: nothing at all to fret over ...

This sounds remarkably modern; as is clear, a regular rhythm and independent melody have taken over those inherent in the text, which, sung a half millennium earlier, might have sounded something like



hóson zêis phaí-nou ... [.]

Note that in the rhythmic notation the superimposed dot was used to indicate arsis. The entire song, complete in a brief eight bars of modern transcription, can be found in the original notation with commentary, DAGM, 88-91 (photographs of stele, 214); transcription, AGM, 301-2.

9. phonês enárthrou méros elákhiston: 1.20, 40.27ff., GMW 2, 445.

10. rhuthmòs toínun estì sústēma ek khrónōn katá tina táxin sunkeiménōn. kaì tà toútōn páthē kaloûmen ársin kaì thésin, psóphon kaì ērémian; ... tà toû rhuthmoû mérē tèn dúnamin tês melōdías enargê kathístēsi. parà méros mén, tetagménos dè kinoûnta tèn diánoian. ársis mèn oûn esti, phorà sōmatos epì tò ánō; thésis dè, epì tò kátō tautoû mérous. rhuthmikḕ dé estin, epistḗmē tês tôn proeirēménōn khrḗseōs: 1.13, 31.9-16, GMW 2, 433-4, transl. Barker.

11. Cheironomy: see above, p.76, 80n.21, 100.

12. Quintilian, Institutio oratoria 9.4.50-1: metrum in verbis modo, rhythmos etiam in corporis motu est. Inania quoque tempora rhythmi facilius accipient; quamquam haec et in metris accidunt, maior tamen illic licentia est, ubi tempora et animo metiuntur et pedum et digitorum ictu ... [.] ("Metre is a matter of words only, Rhythm includes movements of the body. Rhythm also more readily allows unoccupied time units; these do also occur in Metre, but there is more freedom in Rhythm, where we measure time units both mentally and by the beat of a foot or finger ... "; transl. Russell, LCL.) See also "Rhythm and Rhythmic Notation" s.v. "Music," OCD_3, 1010-11.

13. Pearson's rhythmic conjectures, especially from p.xlii to p.liii, and his contention (xxxvii, xliii, 63, 65) that Aristoxenus may allow, in some situations, — ∪ and — — to take equal amounts of time (compare the two iambic metra, above, p.86ff.), are incompatible with the basic rhythmic principles that we have argued are those of our repertoire here. While Aristoxenus "says that the syllable is not a measure" (Michael Psellus, "Introduction to the Study of Rhythm" 1, Pearson's p.20: ouk ésti, phēsì, métron hē sullabḗ), "the older rhythmicians said that it was" (toûton mèn tòn lógon hoi palaioì éphasan rhuthmikoí), and we obviously must defer to them. It is unfortunate that in a rhythmic interpretation of Pindar's Olympian 1 Pearson injudiciously calls the "additive" reading of Pindar's rhythmic style, with its graceful, unpredictable groupings of twos, threes, fives and so on, as "a hotchpotch of glyconic and pherecratic held together by other metrical tags" (p.li), giving us instead the deadly steady beat, with triplets and duplets, that comes painfully close to the realizations of the school of J.H.H. Schmidt.

It may well be that the inclusion in the study of rhythmics, of bodily movements, rests, and related matters comes from Aristoxenus (the fragments are uninformative). If so, we can be grateful to him through their survival in AQ and Quintilian; these sources, as mentioned previously, along with Dionysius (15; LCL, p.108-9), also reaffirm the integrity of the 2:1 temporal ratio of long to short syllables.

14. Dale's principal contribution to the understanding of ancient Greek musical compositions is The Lyric Metres of Greek Drama (2nd ed., Cambridge U. Pr., 1968); of equal importance is her essay, "The Metrical Units of Greek Lyric Verse," Parts I-III, Chapters 4-6 of her Collected Papers (Cambridge, 1969), which consider lyric poetry in considerable detail, particularly that of Pindar.

15. The great classical scholar U. von Wilamowitz-Moellendorff did not fall for Schmidt's bogus rhythmics. In his Griechische Verskunst (1921) he writes, "R. Jebb ... zählt im Sophokles ängstlich die Zeilen und hat sich dem tollen System von J.H. Heinrich Schmidt verschrieben" (p.81). Reprinted grammars that offer specious principles of prosody include the Greek of Goodwin (1879) and the Latin of Gildersleeve and Lodge (1867; both reprinted as recently as the 1960s). Laetitia

Parker gives a brief account of the history and influence of Schmidt's theory, SA, 115-16; cf. OCD_3, 975.

The principle of the ictus ("beat," "pulse"), a misguided pedagogical device, it seems, of Schmidt's era that was applied more to the recitation of Latin poetry than to Greek, but which imposed on both stress-accents that introduced alien distortions, has been discredited. The effect of ictus can be seen in Gildersleeve and Lodge's Latin Grammar, p.461. Cf. GM, 22, 196; IGM, 87; OCD_3, 975; and A.M. Dale, Collected Papers (Cambridge U. Pr., 1969), p.237 of her "Speech-Rhythm, Verse-Rhythm and Song," a wide-ranging essay that I enthusiastically recommend.

16. In addition to GM and IGM by M.L. West, we have also in English Paul Maas's Greek Metre (in German, 1923), translated by Hugh Lloyd-Jones (Oxford, 1962). Critical editions that include metrical analyses include Snell and Maehler's Pindar, and M.L. West's Aeschylus (Teubner/de Gruyter, 1990, 1998). Parker's SA gives analyses (with commentary) for all the comedies of Aristophanes. The Cambridge Greek and Latin Classics volumes generally provide the necessary metrical schemata, and William Scott, in his Musical Design for Sophoclean Theater (University Press of New England, 1996) gives metrical analyses for all seven tragedies of Sophocles (his earlier, parallel Aeschylus study (cited above, p.140) gives complete analyses for the Oresteia tragedies--Agamemnon, Libation Bearers and Eumenides--only).

Appendix iii: Was There a Minor-third Pentatonic Mode in Ancient Greek Music?

It seems to me quite likely that the most ancient Greek modes (a word I'll use here as equivalent to the Greek term harmoniai, which literally means "tunings," originally with reference to the lyre and kithara) were derived from two basic pentatonic scale types common to the world's music, the major-third (hemitonic) pentatonic, referred to by the Greeks as the "Olympian" mode or simply the "enharmonic," with intervals given by the pitches (of our modern convention) e f a b c' e', a mode commonly found in Japan (the In scale), Indonesia (the pentatonic pelog) and much of Asia; and the minor-third (anhemitonic) pentatonic, found almost universally in the planet's musical cultures (e.g., Japanese yō, Indonesian slendro and so on), with intervals given by the pitches e g a b d' e'.

Evidence for the latter, however, is scarce in Greek theory, writings on music, and in the extant fragments of notated music, and far from conclusive. Furthermore, the systematization of the scales of the tonoi by the music theorists undoubtedly obscured or destroyed clues to the early, unsystematized modes, some of which--Dorian, Phrygian, Lydian, for example--were said to have come from, or through, independent neighbor-cultures.

The localized folk music of modern Greece uses a variety of scales, heptatonic, hexatonic and minor-third pentatonic; in some the Asian-sounding augmented second is present, an interval scarce in the ancient Greek music we know. For millennia Greece has been the recipient of outside musical influences. Its variety of traditional musics has been intensively studied for at least a century. So far as I am aware, no evidence has been found that points convincingly to the existence in ancient times of a minor-third pentatonic.[1]

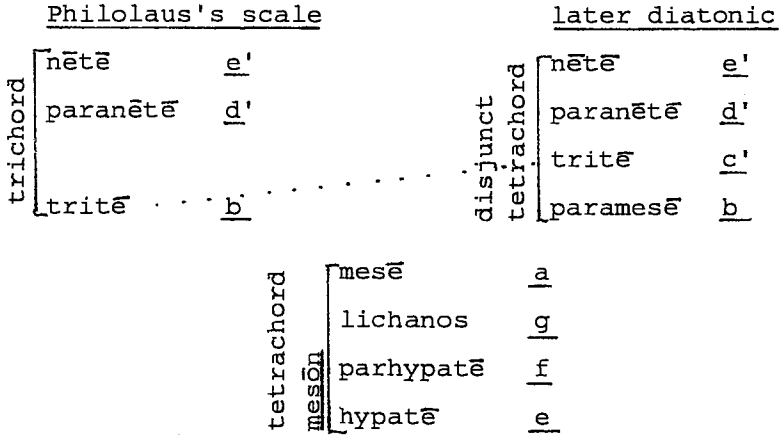
A brief mention must be made here that there is a second ancient Greek pentatonic scale (in addition to the major-third type) that seems certain to have been in use at one time: this scale used the 3/4-tone interval, which I call the midtone, and a mid (or neutral) third. This mid-third pentatonic can be represented in our pitches as e f♯ a b c♯' e', and was known, according to the reports in the Plutarchian treatise on music (1st or 2nd c. CE) as the spondeion or "libation" mode.[2] The Greeks called the descending midtone interval eklysis, and the ascending spondeiasmos; it occurs also in the tetrachordal tunings of

Archytas, Aristoxenus and Ptolemy, and is to be regarded as a basic scale interval in their theory and practice.

The following arguments supplement what I consider the principal evidence: the de facto minor-third pentatonic mode implicit in the Greeks' division of the fourth in the chromatic genus into a trichord of a tone plus a minor third.

1. The seven-string, octave lyre tuning ascribed to Philolaus (fl. ca. 400 BCE) consists of a diatonic tetrachord below a trichord comprising a tone and a minor third.

Philolaus was an influential Pythagorean philosopher and contemporary of Socrates. His lyre tuning is transmitted in Nicomachus's (much later--2nd c. CE) Enchiridion ("Manual")[3] as a diatonic tetrachord (e f g a --tuned as two 9/8 tones with a "semitone" remainder 256/243, the standard "Pythagorean" tuning of Plato's Timaeus, 36b), above which is a disjunct fourth divided as a segment of the minor-third pentatonic scale, an ascending minor third plus a tone, as can be seen in the diagram. The names of the notes (=strings) are significant; the oldest names, mesē, hypatē, nētē (neatē), lichanos and tritē refer to string or finger positions. Tritē was the name given to the third string, starting with nētē; in Philolaus's trichord, this was the string later renamed paramesē when the intercalated diatonic note (our c') took over the position of tritē.



It is certainly tempting to speculate that the lower, diatonic tetrachord was also at one time a trichord like Philolaus's, and that the note parhypatē was a later "infill" of the minor third, dividing it into a tone and a semitone.

(A portion of Philolaus's octave--g a b d' e'--stands out quite provocatively as a complete minor-third pentachord.)

Lyre-tuning procedures may also hold some clues. The string mesē was probably not, as sometimes claimed, a regular tonic or finalis in melodies, but a central pitch in several senses: it is the middle (mesē) string on Philolaus's lyre; on our hypothetical pentatonic lyre it is the middle string if we add at the lower end an additional tone, the string that had the "working" name of hyperhypatē, giving us the tuning d e g a b d' e'. Mesē also appears to have been considered the fixed-pitch string from which one begins a particular lyre tuning. In the case of the pentatonic tuning above, it is also the middle pitch: beginning with mesē as a, one tunes two fifths/fourths on either side of it, in the sequence G←D←A→E→B.

2. In the Politics Aristotle offers as one example, among several, of a dichotomy the observation that "some people" say that there are two basic forms of scales, the Dorian and the Phrygian, and all others are derived from them. Could these forms be the "universal" pentatonics, the major-third and minor-third types?

> houtō kaì tôn politeiôn dúo, dêmos kaì oligarkhía; tèn gàr aristokratían tês oligarkhías eîdos tithéasin hōs oûsan oligarkhían tiná, kaì tèn kalouménēn politeían dēmokratían, ... homoíōs d' ékhei kaì perì tàs harmonías, hōs phasí tines: kaì gàr ekeî títhentai eídē dúo, tèn dōristì kaì tèn phrugistí, tà dè álla suntágmata tà mèn Dōria tà dè Phrúgia kaloûsin. (Aristotle, Politics 4.3.4-5, 1290a)
>
> [As in the case of winds,] so also of constitutions there are held to be two forms, democracy and oligarchy; for men reckon aristocracy as a kind of oligarchy because it is oligarchy of a sort, and what is called constitutional government as democracy, ... And the case is similar with musical modes, as some people say: for there too they posit two kinds, the Dorian mode and the Phrygian, and call the other scales some of them Dorian and the others Phrygian. (transl. H. Rackham)

The musical implications of this passage seem to have been rather neglected.[4] In our tonal music, we might say that the two basic modal types are the major and minor, but of course this doesn't apply to ancient Greek modes, since we would put both their (diatonic) Dorian and Phrygian (the diatonic scales on E and D respectively) in the "minor" category. The later Greek system of harmoniai is like that of our medieval modes: the diatonic scale is

cycled to produce seven different modal scales, no one or two of which are any more basic than any of the others. Aristotle's two forms of government are of altogether different character: the oligarchic are "more tense and masterful" (suntonōteras kai despotikōteras), the democratic "relaxed and soft" (anheimenas kai malakas). We can reasonably think that the two modes he cites as basic were similarly opposed: the celebrated ancient Dorian mode we know was the major-third pentatonic; its most obvious--Phrygian?--opposite would clearly (though, regrettably, not conclusively) be the minor-third pentatonic mode.

3. The "ancient modes" that are given in Aristides Quintilianus's De musica (?2nd c. CE), when converted from the enharmonic genus of the original to the diatonic genus, contain significant portions of minor-third pentatonic scales.

Presented with the claim that they are the ancient modes mentioned by Plato, these are remarkable scale structures, regardless of argument and conjecture about their authenticity.[5] The "Iastian" scale, given as B B♯ c e g a, appears to contain a portion of a minor-third pentatonic scale as it stands. To see the more likely underlying pentatonic structure, however, we have to change the form of the scale from its original enharmonic to the diatonic genus (e.g., the tetrachord B B♯ c e becomes B c d e). Then we must take into account the fact that the pitch we have represented as c was written in the Greek notation as a raised B--let's call it B# for the moment, awaiting a fuller explanation to follow. Making these changes, we have as the diatonic Iastian scale B B# d e g a, where what I am calling the "underlying minor-third pentatonic" is B d e g a, two conjunct minor-third trichords. This brings us to the intricacies of the notational system itself.

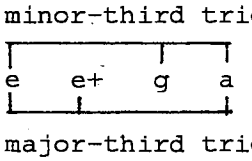
4. The operational principles of the ancient Greek musical notation may point to a minor-third pentatonic scale as well as to the familiar major-third type.

Whenever Greek musical notation was invented--guesses range today from as early as the mid fifth century BCE to about a century later--its peculiar features certainly derive from its practical uses and may offer us some information about modal scale structures.[6] (There were in fact two notations, an (earlier) instrumental and (later) vocal, which differed only in their symbols, not in their application; we will use the instrumental symbols, for reasons made clear below.)

The notation gave an overall range of about two octaves (G-a', in our conventional pitches). The oldest signs appear to be those of the central octave of the diatonic scale in the instrumental series (below). Each sign was modified in its aspect in order to indicate two degrees of modification of its pitch, one and two degrees sharp, respectively: so, for example, our pitch a had the sign C; for a+ (one degree sharp) the sign was rotated a quarter turn: ∪ , and for a++ (two degrees sharp), reversed: ⊃. One degree of sharping, for which the technical term was diesis, was anywhere from an approximate quarter tone, in the case of the enharmonic genus, to an approximate semitone for the chromatic. There are (to us) several oddities here: first, apart from two late treatises that mark the Lydian mode, the notation did not distinguish between the enharmonic and chromatic intervals; the mesōn tetrachord, written (in our notation) e e+ e++ a, ascending, could be either the enharmonic, e e♭ f a, or the chromatic, e f f# a. Nor did they write the diatonic tetrachord as we might expect, e f g a, but always instead e e+ g a.

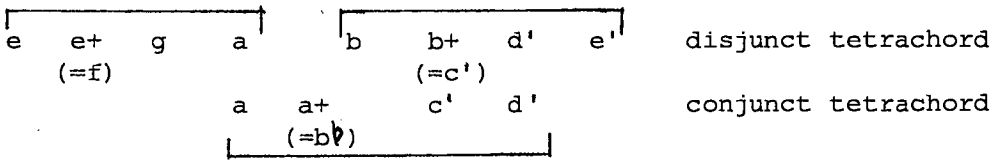
Moreover, the ancient enharmonic, the major-third pentatonic mode, is also written this way: in the Delphic Hymn of Limenius, the pitches (as transcribed), g' e'♭ d' b♭ a are written ↴ ∨ < ∪ C, or (in my notation) g' d'+ d' a+ a.[7] In the Damonian scales mentioned above, the original, enharmonic Iastian scale is notated as B B+ B++ e g a; we derived the corresponding diatonic form as B B+ d e g a.

The normal representation of the semitone as a "one-degree-sharp" interval, even in the diatonic genus, instead of using the diatonic semitone available in the notated scale (e-e+ rather than e-f, and so on), suggests to me quite strongly that two opposing modal forces, and the notational principles of each, are operating in single system of symbols: the major-third pentatonic, with its "plus-degree" semitone, in the trichord e e+ a, for example, and the minor-third pentatonic, written with the "normal" diatonic symbols, as in the trichord e g a. These combine in the diatonic tetrachord:



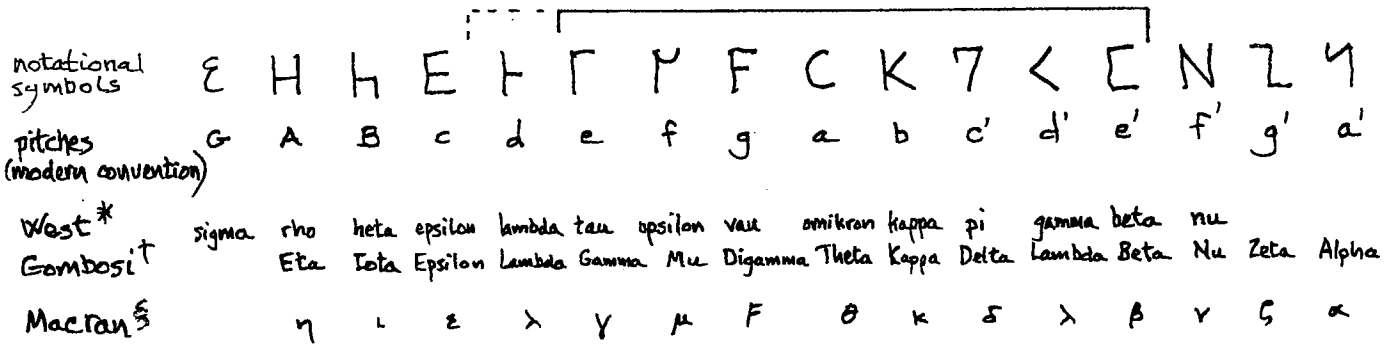
The "natural" diatonic scale needs no explanation. The curious notation of the semitones, however, has to my mind been best explained as originating in the fingering technique of the aulos, the nearly ubiquitous single or twin double-reed wind instrument. The aulos was in construction a simple tube with finger-holes that allowed the production of different pitches, much like a shawm or baroque oboe. A little experimentation with a basic wind instrument, a recorder or penny whistle, for example, will show that in order to obtain a pitch a semitone (or quarter tone) above the lowest note, the bottom hole must be opened a more or less small amount. The Greek term for this partial opening seems to have been diesis, "leak" (from the verb di(a)-hienai, "to let through"), describing the technique used. The single degree of sharping (our +) is a smaller "leak," that of two degrees a larger, as needed to produce the desired pitch.[8] (This technique, one quickly discovers, is not at all easy; having the smallest intervals at the bottom of the tetrachord was for the aulos player an inconvenient but negotiable coincidence. Many modern recorders double the bottom two holes in order to make the lowest semitones easier to play.)

The development of a musical notation, then, seems closely connected to the aulos, which often accompanied the voice, but, unlike the more limited lyre and kithara, could transpose melodies to different pitches. The existence of semitones in the "natural" diatonic scale appears to be an artifact of transposition: as we have seen, in the disjunct tetrachord of the diatonic octave our note c' is written as b+; but in the conjunct diatonic tetrachord ascending from mesē it is notated as c' (and the a-b♭ semitone is, of course, written a-a+).



To return to the notational symbols themselves, I propose that the sequence in the central-octave portion of the diatonic instrumental notation may support an argument for the minor-third pentatonic mode. This sequence (see the accompanying figure, p.7) has been repeatedly analyzed for the connection of its signs to an early alphabet, though inconclusively. The correspondances arrived at by three modern scholars--Macran, Gombosi and West--are shown in the figure.

THE DIATONIC SCALE IN THE ANCIENT GREEK INSTRUMENTAL NOTATION
with the identification of the symbols by three scholars



* M.L. West: Ancient Greek Music (1992), 260, 262 n. 16; "vau" = digamma

† Otto Gombosi (1939), reported in J. M. Barbour, "The Principles of Greek Notation," Journal of the American Musicological Society 13 (1960), 7. (Gombosi's and Macran's values are identical)

§ H.S. Macran; "Greek Music", Grove's Dictionary of Music and Musicians," 2nd ed. (1906), v. 2, p. 231

I assume, tentatively, the following:

- the alphabetic sequence gives ascending pitches, unlike that of the vocal notation, which gives a descending scale: an ascending scale scale is logical for a wind instrument, here the aulos, where one would naturally begin a letter-notation with its lowest note;
- the lowest note in the earliest scale appears to be e (Γ); a later extension of the instrument giving the hyperhypatē d (ϧ) could have been added, as on modern wind instruments.

If the assignment by Macran and Gombosi of alphabetic values to the symbols is correct, there is a clearly identifiable sequence in alphabetic order (with gaps, not obviously explicable, of one or two letters), Γ Ϝ C K ≺ (gamma, digamma, theta, kappa, lambda), into which two characters, Ϻ and Ϸ, out of alphabetic order, have been inserted (mu and delta, our pitches f and c'). [9] The symbol Ⲅ (beta), used for the octave e', may be a later extension, as with ϧ, mentioned above (a different form of lambda) for hyperhypatē (d). What this looks like is a first-stage scale, e g a b d' (e'), our minor-third pentatonic, with later intrusions of f and c' (added, as explained above, when transposition on the aulos came into practice). The rotated symbols ⌊ and ⋋ (for e+ and b+) must have been in use from the beginning to indicate the special fingerings for the dieses ("semitones") in the important major-third pentatonic scale, the "Olympian" or archaic Dorian mode.

5. In turning to what should be evidence of the most conclusive kind, that of the notated music, we are to be almost entirely disappointed, as there are only the slightest suggestions of what we might have hoped for in this very small and mostly very late collection of fragments.

The notated music that survives was all written down, it is quite certain, no earlier than the third century BCE; the music itself is almost all from that time or later. The fragments in which I find minor-third pentatonic segments are as follows (with references by item number to DAGM and AGM):

- ?Mesomedes, "Invocation of the Muse," first two phrases, ll.1-2, DAGM 24, AGM 16. (2d c. CE)
- "[L]yrical," Pap. Yale.CtYBR INV.4510, ll.7-9, DAGM 41. (2d c. CE)
- "Obscure fragment," POxy.3704, fr.1→, portion, DAGM 44, AGM 34a. (2d c. CE)

- "[D]ramatic scena"? POxy.4463, ll.4-8, DAGM 47. (2d-3d c. CE)
- "[D]ramatic," POxy.3161^{r}, ll.1-10, DAGM 53, AGM 45; this segment is altogether lacking in semitones. (3d c. CE)
- "Lyric," POxy.4467, ll.8-9, DAGM 58. (3d c. CE)

• • •

The claims for the power of the ethos, or affect, of the Greek modes--above all, the Dorian and Phrygian--are famous from their mention in much ancient writing on music. While it is mainly the conjunction of text and melody, as compared to the abstract scale, that creates affective associations, the striking differences of ethos that we read about could nevertheless be accounted for in part by a dramatic difference in scale-structure such as we find in comparing our two basic pentatonics. Evidence for the minor-third pentatonics is probably forever inconclusive; yet its almost universal use in musical cultures everywhere prevents my excluding it from use in the reconstructions these pages contain.

NOTES

1. A good general survey, by region, of Greek folk music can be found in The New Grove Dictionary of Music and Musicians, ed. by S.Sadie, 1980 edition (Macmillan), 7:675-81 ("Greece, IV, 1-5), which I have found more informative than the quite different treatment in the 2001 New Grove 2.

2. GMW 1, 215-17, 223-4, 255-7. It is possible that a semitone was used in the lower trichord rather than a midtone, as Barker and some others conjecture. I agree with R.P. Winnington-Ingram, "The Spondeion Scale" (Classical Quarterly 22 (1928), 89), that this interval was likely a midtone. Cf. also Chalmers, 12, 97.

3. AGM, 176; GMW 2, 37-8, 261-2; see also Walter Burkert, Lore and Science in Ancient Pythagoreanism, transl. by E.L. Minar, Jr. (German ed., 1962; Engl., Harvard Univ. Pr., 1972), 391-4. The much earlier musician Terpander is also credited with this scale, but in very late sources that lack a specific tuning: AGM, 177. Barker, GMW 1, 198-9 n.62, gives a somewhat different etiology for the "Terpander" scale.

4. It is briefly discussed in Warren Anderson's Ethos and Education in Greek

Music (Harvard University Pr., 1966), p.118, 144, and is mentioned in Ernest McClain's valuable survey of number and the philosphers of Plato's school, Appendix I, The Pythagorean Plato: Prelude to the Song Itself (Nicolas Hays, 1978), p.136; Barker omits it. I was first made aware of it in Curt Sach's The Rise of Music in the Ancient World, East and West (Norton, 1943), p.221.

Two further observations on the differences between Dorian and Phrygian deserve mention: the first comes, again, from the Politics, where Aristotle writes (making similar analogies to different sorts of state constitution) that "for instance a musical tune consisting of the same notes we call a different tune if at one time it is played in the Dorian mode and at another in the Phrygian" (3.1.14, 1276.8-10, transl. H. Rackham; hoîon harmonían tôn autôn phthóngōn hetéran eînai légomen àn hotè mèn hêi Dórios hotè dè Phrúgios). My interpretation of this is simply that a melodic mode can possess an ambiguity of key that a definite finalis resolves: take the phrase gfedfdd, for example, as cadential; the tonic is clearly d. But change the finalis so we have gfedfee: the ear now will accept e as tonic. Aristotle may be saying no more than this.

The second is a quotation attributed to Aristoxenus, fr.84, in which he says that "the Dorian harmonia suits the enharmonic genus very well, and the Phrygian
+ the diatonic" (Wehrli, Aristoxenus, v.2, p.31; proshékei dè eû mála tò enharmónion génos têi Doristì harmoníai, kaì têi Phrugistì tò diátonon). This I find more difficult to interpret, but I suggest that all it is saying--assuming reference to the theorists' later, systematized harmoniai--is that the Dorian mode is not a diatonic mode, but retains its ancient pentatonic interval structure based on the fourth and the ditone. (Cf. Aristoxenus's description in the Harmonics 23, GMW 2, 141; neither of the above passages seem to be included in Barker's GMW.)

5. Also referred to as the "Damonian" scales: GMW 2, 420. See also GMW 1, 165-8; AGM, 174ff; Anderson 1994, 154-8.

6. West seems to propose the earlier dates, AGM, 254-65.

7. AGM, 293, last line of music (West transposes the pitches down a fourth).

8. John G. Landels, Music in Ancient Greece and Rome (Routledge, 1999), 35-6, 208, 214-15; Landels has made a special study of the aulos. I have borrowed his excellent word "leak." Landels describes the "diesis" technique (34) as

"raising the finger" from the hole the necessary amount--the holes were closed not with the tips of the fingers, but rather with "the flat of the finger near the last joint." One might wonder why holes were not cut nearer the bottom end of the instrument to give direct quarter- or semitones, but (I am inferring) the limited span of the fingers may have made such hole placement impossible, even on a relatively short instrument. See also AGM, 95, 235n42 and 262.

9. The central octave of the instrumental notation, showing the positions in the Greek alphabet of the symbols as identified by Macran and Gombosi:

Α	*Β*	*Γ*	*Δ*	*Ε*	*Ϝ*	*Ζ*	*Η*	*Θ*	*Ι*	*Κ*	*Λ*	*Μ*	*Ν*	...
		Γ			Ϝ			C		K	Λ			oldest sequence?
	ɾ						⊦							later extensions?
			7									ᚠ		later intrusions?

See especially the old letter forms for Argos (with estimated dates) in The Local Scripts of Archaic Greece by L.H. Jeffery (Clarendon Pr., 1961), 151-3, along with AGM, 261-3, on origins of the instrumental notation.

Appendix iv: Aristoxenus and the Enharmonic Genus

> Modern musicians, spoiled by the ready-made distances on equal-tempered keyboards, could hardly be blamed for sneering at the overrefinement [of the pitch distinctions in ancient Greek tunings] that to them meant decadence and snobbishness. Still, the Greeks would have stopped their ears had they heard our piano scales ...
>
> Curt Sachs, The Rise of Music in the Ancient World East and West (Norton, 1943), 214

> Ancient Greek music was purely or predominantly melodic; and in such music subtleties of intonation count for much.
>
> R.P. Winnington-Ingram, "Aristoxenus and the Intervals of Greek Music," 195[1]

Although he wrote prolifically on many subjects, Aristoxenus is probably best known for his writings on music theory, the Harmonic Elements (late 4th c. BCE; hereafter Harmonics), and was in ancient times acknowledged and quoted as a principal authority on musical matters--Cicero refers to him as musicus idemque philosophus (Tusculan Disputations, 1.10.19). His incomplete but substantial theories of harmonics, melody and rhythm are the earliest such works we have on Greek music.

One of Aristotle's most gifted students in his Lyceum, A. was trained in his teacher's scientific method, which followed on an earlier, evidently Pythagorean education (we shouldn't forget that he was from Tarentum, not far from Pythagoras's adopted home, Croton, in Southern Italy, which was the territory, too, of the eminent musician-philosophers Philolaus and Archytas). Using the Aristotelian methodology, namely, to gather sensory data through the faculty of perception and to explain these data through the faculty of reason, A. attempted to create "an independent science" of music, defining music's components and its operational principles.[2]

That A. was not able to achieve such a self-standing theory of music is not surprising; nevertheless he left us with terminology, categories and procedures that have become accepted and familiar. In our concentration here on his definition and treatment of the enharmonic genus, it will not I think be irrelevant to examine briefly some of the contradictions in the Harmonics, along with the differences in his treatment of intervals and tetrachordal divisions from those of other music theorists of antiquity whose work has reached us.

At the heart of every identification of musical intervals in Greek theory (and continuing into the middle ages) lie the three "perfect" consonances, the octave and its primary constituents, the fourth and fifth. Pythagoreans (to whom the knowledge probably came from the science of earlier cultures) defined these intervals by means of ratios of lengths of a vibrating string, as is well known: 2:1 for the octave, 3:2 for the fifth, and 4:3 for the fourth. The numbers 1 to 4, forming simple proportions, present a kind of numerical perfection that one can hear transformed into an acoustic perfection: a pure (i.e., beatless), concordant mixing of high and low in a mutually reinforcing correspondence of number and sound.[3]

Aristoxenus, however, simply presents the fourth and fifth as givens; his first actual definition of an interval is that of the tone, the differnce between the two.[4] This arbitrary treatment deprived A. of a quite perfect example of the cooperation of perception and reason: we perceive the qualities of the three consonances, and reason confirms their primacy through the simple ratios of the string lengths whose vibrations produce them. (The Greek word logos means both "reason" and "ratio.") A. of course knew this perfectly well, but he had an overriding motive for keeping quiet about it: in order to implement his fundamental principle that the interval of a fourth contains exactly two and a half tones, he was forced to allow that "the concords appear to have no range of [pitch] variation at all, or else a range which is quite indiscernible..."--that is, a consonant interval could be very slightly out of tune without disturbance to its inherent nature. This would appear to be an insignificant amount of fudging, but it compromises both perception and reason, and, ultimately, his entire intervallic system as well.[5]

The Tetrachordal Divisions

Aristoxenus "set himself to shut off the genera into watertight compartments";[6] he was apparently the first theorist to specify the range and shades (khroai) of the enharmonic, chromatic and diatonic divisions of the tetrachord. A.gives these divisions in somewhat convoluted prose descriptions. In the customary (modern) tabular array of intervals comprised of A.'s tones and fractions of a tone (using our conventional pitches), these are as follows.

ENHARMONIC

e	e♯	f	a
	1/4	1/4	(2)

CHROMATIC

	e	f	f#	a
soft		1/3	1/3	1 5/6
hemiolic		3/8	3/8	(1 3/4)
tonic		1/2	1/2	(1 1/2)
[unnamed		1/3	2/3	1 1/3]

DIATONIC

	e	f	g	a
soft		1/2	3/4	(1 1/4)
tense		1/2	1	(1)
[unnamed		1/3	1 1/6	1]

Expressed in our recently invented (but Aristoxenian) units of cents (100 cents to the semitone of 12-tone equal temperament), the intervals above are:

1/4	50	1	199
1/3	67	1 1/6	232
3/8	75	1 1/4	249
1/2	100	1 1/2	299
2/3	133	1 3/4	349
3/4	149	1 5/6	365
		2	398.

Except for the shaded division of 1/3 + 1/3 + 1 5/6 tones, it is clear that A.'s named divisions are intended to represent the leading, or defining, intervals between mesē and lichanos all as multiples of a unit interval, the 1/4 tone (circled).[7] That he could see the inadequacy of this scheme as a representation of the tunings of actual practice is betrayed by his inclusion of the interval of 1/3 tone, in two unnamed ("melodic") divisions as well as the soft chromatic division, a "real" musical interval unaccounted for in his regular system. This 1/3-tone interval is virtually identical with Archytas's 28:27 (63-cent) diesis (Appendix i, above, p.171), a familiar interval in the tetrachords of Ptolemy as well as Archytas.[8]

A.'s ingenious employment of the linear measurement of musical intervals has at least one serious drawback: his intervals cannot be tuned accurately by ear, and only approximated more or less accurately (and with some difficulty) on a monochord. (There must be at least a few doubts--I have some--that he himself ever heard good representations of his divisions, which appear more intellectual than musical in their design.)[9] The presence in his chromatic divisions of the tone-fractions 1/3 and 3/8 gives rise to the theoretical existence of a very small inter-

val, 1/24 tone (8.3 cents), the difference between them, and is rather an embarrassment for his arguments, in which he harshly criticized other theorists for trying, in their tuning experiments, to find "the smallest interval" (28.1ff. (145); to elakhiston diastēma; was it from these theorists that he got the idea for the smallest unit interval?).[10]

Defining the Enharmonic Genus

We concentrate now on A.'s enharmonic division, and the valuable clues he offers to its nature and its use in music. Quoted in the "Plutarch" treatise (1st-2nd c. CE), he refers to the old enharmonic, the major-third pentatonic mode supposedly invented by Olympus, and to the aulos being played "in the old style," with an "incomposite" (i.e., undivided; asuntheton) semitone. In a famous passage in the Harmonics, again referring to "old-fashioned styles" (23.10, arkhaiïkōn tropōn), he invokes the incomposite ditone (two whole tones in width) as the sole defining characteristic of "a form of melodic composition ... that, far from being the most contemptible ... is perhaps the finest"; this form "demands a ditone lichanos."[11]

We recognize the ditone lichanos from our tuning of the Dorian mode and the Homeric lyre: the old, trichordal enharmonic A. refers to, 81:64 and 256:243 (see Appendix i, above). But what Aristoxenian intervals correspond to this noble tuning? The ditone of his enharmonic, at 398 cents, and its semitone, 100 cents, each depart from the ideal "Pythagorean" tuning, 408 and 90 cents, by the same, substantial amount, a departure that is quite apparent to an untutored ear.

A. complains that "most people nowadays" (hoi pleistoi tōn nun) use a higher (suntonōterais) lichanos, making the interval mesē-lichanos somewhat smaller than the "ideal" ditone: "The reason," he says, "is their endless pursuit of sweetness."[12] This suggests rather strongly that musicians were using Archytas's "ditone" of 5:4 (or something close to it), the sound of sweetness itself, in tuning lichanos to mesē. A.'s ditone lichanos, however, is itself higher than our "ideal," as just mentioned, by a noticeable amount, almost half the distance to the 5:4 lichanos.

			Δ cents
	mesē	0	
	5:4 lichanos	386	12
down	Aristoxenus's lichanos	398	10
	ideal enharmonic lichanos	408	90
	hypatē	498	

These discrepancies, it seems to me, further weaken A.'s claims and arguments as the basis of his system.

In his criticism of the upward trend of the pitch of lichanos, A. observes that "most people ... spend most of their time on the chromatic, whereas when they do occasionally come to the enharmonic, they force it close to the chromatic [by raising the lichanos], and the melody is correspondingly pulled out of shape."[13] At what point, then, in A.'s system of divisions, does "a form of the chromatic begin to emerge from the enharmonic"? He continues, at a later point: "[T]he genera have not been definitely distinguished; but it is evident that we must supply this deficiency if we are to follow the differences that present themselves in works of musical composition."[14]

In the precise description of his divisions in Book I, he specifies that "the lowest chromatic lichanos is higher than the lowest enharmonic by one sixth part of a tone":[15] the lowest enharmonic lichanos is 1/2 tone above hypatē; adding his 1/6 tone, we get 2/3 tone as the lowest chromatic lichanos; this is the lichanos of our soft chromatic division in the chart above (1/3 tone + 1/3 tone), 133 cents above hypatē. Here we may suspect A.'s actual listening experience (for all the importance he attached to perception), since something has gone quite wrong.

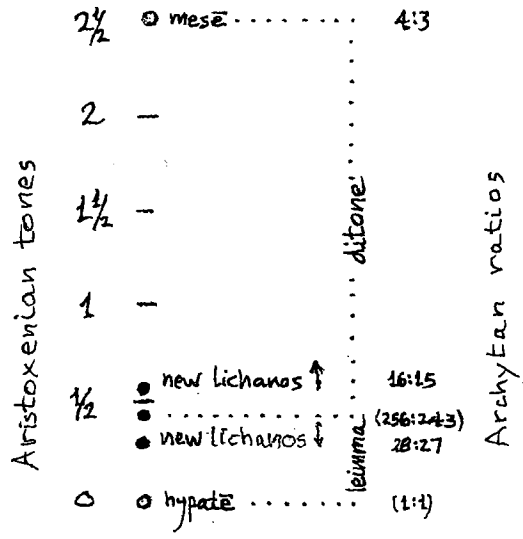
In Zarlinian just intonation, the largest semitone is the intervallic difference between a minor third 6:5 and a minor tone 10:9, or 27:25, 133.2 cents.[16] This interval, wide though it sounds, is absolutely a (diatonic) semitone, and I doubt that ancient Greek ears would judge otherwise. Aristoxenus's 2/3 tone of 132.3 cents is perceptually indistinguishable from this large, just semitone, and thus by a small but decisive amount, what he calls a chromatic division is actually enharmonic, with an equally divided, unambiguous semitone.[17]

To the modern, rational ear there is a clear divide between the chromatic and the enharmonic at the point where the lichanos is a mid (neutral) third below mesē: a minutely lower lichanos makes the third major and the division enharmonic; a slightly higher lichanos makes a minor third with mesē, and thus a chromatic division. At that divide is A.'s hemiolic chromatic lichanos, 1 3/4 tone (349 cents) below mesē.

The Enharmonic Genus in Practice

Aristoxenus mentions, as we saw, both an old, trichordal enharmonic of semitone and ditone, and a tetrachordal enharmonic, in which the semitone is bisected into quartertones. We simply do not know how those latter intervals were deployed in melody: the failure of the ancient notations to distinguish between the enharmonic and chromatic genera, and the lack of unambiguous notated examples of melodic use leave us uncertain of whether consecutive quarter tones could ever have been sung. Furthermore, there is convincing experimental evidence that humans lack an internal mental-aural template for the quarter tone such as we have for larger intervals: otherwise it would be a universal musical commonplace, but in fact it is rarely found anywhere.[18]

In certain Indian rāgas, the pitch of some scale-degrees is inflected somewhat differently in melodic ascent and descent, as described by Alain Daniélou in his Introduction to the Study of Musical Scales (1943; reprint, Oriental Books Reprint Corp., 1979), 173-6, in a discussion of the Greek enharmonic genus, using as an example the Hidustani rāga Guṇakalī, like the Greek Dorian, a major-third pentatonic mode. Daniélou suggests an enharmonic that was still in principle trichordal, but that used in practice an expressive, intonationally inflected lichanos of two distinct pitches, the choice of which depended on the melodic direction.[19] Archytas's enharmonic division (Appendix i, above, p.171-2) offers easily tuned, singable intervals for attempting this melodic employment of the enharmonic: as shown at the left, there is a lower lichanos of 28:27, about 1/3 tone above hypate; a higher lichanos of 16:15, the Zarlinian just diatonic semitone; and a 5:4 major third (ditone) from there to mesē. The pair of "new" lichanoi create melodic intervals above hypatē that are about 27 cents narrower, and about 22 cents wider, than the "old" leimma (256:243, 90 cents), as the figure shows.[20]



I have used this tetrachord in an experimental Mixolydian scale for a mel-

odic reconstruction of Sappho's "Fragment 1," given below in Appendix v (as the "Archytan" tuning); in this scale, the lower tetrachord is the Archytan diatonic, while the upper, conjunct tetrachord is the Archytan enharmonic. For the Sappho poem, at least, this scale and tuning are to my ear a success, and give a very plangent effect.

• • •

European music theory after Aristoxenus made extensive use of his categories of pitch, interval, system, and many of his technical terms, but mainly in the service of a Pythagorean, ratio-based concept of intervals, influenced until about two centuries ago by the use of the monochord for intervallic measurement and comparison.[21] It is only in the last century that a truly Aristoxenian theory of music has arisen, largely achieving his goal of an independent system of musical synthesis and analysis by establishing absolute musical intervals as multiples of a fundamental unit, the semitone (and accounting only for the quantitative aspect of interval, while ignoring the qualitative):[22] it was of course twelve-tone equal temperament and the Schoenbergian idea of intervallic autonomy that made possible the ultimate realization of an Aristoxenian theory of music.

NOTES

Citations are from the Harmonics of Aristoxenus unless otherwise indicated; the page numbers in parentheses refer to Andrew Barker's GMW 2.

1. Classical Quarterly 26 (1932), 195-208. A brilliant analysis, indispensable for the understanding of Aristoxenus's tetrachords in their relationship to those of Archytas and Ptolemy.

2. On the breadth of musical subjects known to have been treated by A., see Sophie Gibson, Aristoxenus and the Birth of Musicology (Routledge, 2005), Chapter 5; on an independent theory of music, pp.23, 38-9 and passim.

3. Philolaus's and Plato's musical intervals: Timaeus 36b (GMW 2, 59-60), Nicomachus's Enchiridion, ch.9, 250-53 (GMW 2, 259-62). Mixing of tones in concordant harmony: see Appendix i above, notes 1-2.

4. A.'s primary consonances and definition of the interval of a tone: 21.22 and 45.5-46.3 (140, 160).

5. "The fourth is 2½ tones": 24.5, 9-10 (140) ([Tò ... diatessárōn ...] dúo tónōn kaì hēmíseos, keísthō toûto àn eînai tò mégethos); "range of variation": 55.3-5 (168) (hólōs ouk ékhein dokeî tópon ... è pantelôs akariaîón tina). From 56.15 (168-9) A. offers a "demonstration" that the fourth consists of 2½ tones. Following his steps exactly, one reaches a result that audibly disproves his claim; in order to reach his intended result, the tuning of the required fourths and fifths must deviate from true by about 2½ cents. Winnington-Ingram ("Aristoxenus and the Intervals..." (above, note 1), presents this and similar problems (198-9) as evidence of A.'s "guilty conscience."

6. J.F. Mountford, "The Musical Scales of Plato's Republic," Classical Quarterly 17 (1923), 134.

7. For mesē-lichanos as the "leading" interval, see. Appendix i, above, p.175. A. gives his divisions in the dense prose of his Books 1 and 2: 24.16-32 (143), 50.25-52.8 (164-5). Note that I am using Winnington-Ingram's convention of equating A.'s 2½ tones with the pure fourth 4:3 of 498.0 cents rather than the more usual 500 cents of equal temperament, a numerically insignificant distinction.

8. Winnington-Ingram (above, note 1) points out that the "unnamed" division of 1/3 + 2/3 + 1 1/2 tones is virtually identical to Archytas's chromatic, and that of 1/3 + 1 1/6 + 1 to the latter's diatonic (p.201-3; see Appendix i above, p.171-2). The unnamed chromatic and diatonic are given at 55.15ff. (165) and 27.10ff. (144), respectively.

9. Aside from the 1/3-tone interval mentioned above, the best representations of basic ratio-intervals (above, Appendix i) in his fractional divisions are his 3/4 tone (12:11, 151 cents; in Ptolemy's (in)tense chromatic and equable diatonic) and 1 1/6 tone (8:7, 231 cents; in Archytas's diatonic). Fairly close are his tone (199 cents) and the 9:8 major tone (204), and his 1 1/2-tone interval (299) and the "Pythagorean" trihemitone 32/27 (294). No tetrachords of Archytas or Ptolemy sound anything like A.'s enharmonic, or soft or hemiolic chromatic divisions,

though the latter, with the 3/8-tone intervals combined, is the spondeion-mode trichord we have already met, here as 3/4 + 1 3/4 tones (149 + 349 cents) (above, p.61, and Appendix i, p. 174).

The difficulty of tuning A.'s intervals as he presents them arises from the fact that his divisions of the fourth all produce irrational intervals, where for a given interval one monochord string length, or pitch, is incommensurable with the length of its counterpart. (For a discussion of the place of irrational quantities in ancient Greek mathematics and geometry, see, e.g., Thomas Heath, A History of Greek Mathematics (1921; reprint, Dover, 1981), vol.1, p.90-1, 154-7.) Proposition 3 of the Euclidean Sectio canonis (GMW 2, 195) demonstrates that a superparticular (epimoric) ratio (of the nature of (n + 1)/n) cannot be divided into two or more equal parts. A.'s tetrachord encompasses a fourth 4:3; to divide it equally requires that we take the sqare root of its ratio, which will be 2:√3, or 2:1.732051... (a nonterminating decimal), giving us incommensurable string lengths, which, along with the desired interval, can only be approximated. Similarly, for A.'s 2½ tones, or 5 semitones, we would need the fifth root of 4:3, which is the decimal ratio 1.059224.... Ratios of integers, by contrast, such as 16:15 or 256:243, can (at least in theory) be produced with complete accuracy. For musical intervals as conceived by the Aristoxenians and their adversaries, the Pythagoreans, see Burkert, Lore and Science... (Appendix iii, above, p.195, note 3), 369-71.

10. A. acknowledges (25.15) the interval of 1/12 tone between the 1/4-tone and 1/3-tone intervals (143). Later theorists--e.g., Cleonides--divided A.s fourth into thirty equal parts, but this left them with a 4 1/2-part interval in the hemiolic chromatic, implying an actual 60 parts. (For Cleonides, see O. Strunk, Source Readings in Music History (Norton, 1950); 30 parts: p.39-40.) An excellent discussion of the Aristoxenian divisions is presented by John Chalmers in his Divisions of the Tetrachord ... (Frog Peak Music, 1993); also available on line.

+ 11. Aulos: "Plutarch" 1135b (GMW 1, 216-7) (eán tis arkhaïïkôs auloûntos akoúsēi); ditone lichanos: 23.2 (141); A. defines the enharmonic division with reference to the mesē-lichanos ditone only (cf. Barker, GMW 2, 245 n.242). "A form of": 23.3ff. (141) (hóti d' ésti tis melopoiía ditónou likhanoû deoménē kaì ouk hē phaulotátē ge allà skhedòn hē kallístē...).

12. "Sweetness": 23.16 (141, tr. Barker) (toútou d' aítion tò boúlesthai glukaínein aeí).

13. 23.20-3 (141-2, tr. Barker) (málista mèn gàr kaì pleîston khrónon en tôi khrōmati diatríbousin, hótan d' aphíkōntaí pote eis tḕn harmonían, engùs toû khrṓmatos proságousi sunepispōménou toû ḗthous).

14. 35.11-12 (152, tr. Barker) (autò dè tò póte árkhetai ex harmonías khrômá ti gígnesthai); 35.20-25 (152; tr. H. Macran, The Harmonics of Aristoxenus ... (Oxford, 1902), p.191) (ouk ên dihōrisména tà génē próteron,... hóti dè dihoristéon... phaneron).

15. 25.12 (143) (hē mèn oûn barutátē khrōmatikḕ likhanòs tês enharmoníou barutátēs héktōi mérei tónou oxutéra estín).

16. 6/5 x 9/10 = 27/25; this semitone is somewhat rare in part-music, but it does occur.

17. The 1 5/6-tone interval is, at 365 cents, a very narrow but unmistakably major third. Approximation of A.'s division using the 27:25 interval is very accurate, and is not difficult: set e - a as a pure fourth 4:3; tune g to e as a pure 6:5 minor third; tune d pure a 4:3 below g, and then f a pure 6:5 above d. (Analysis from e: 6/5 x 3/4 x 6/5 = 108/100 = 27/25.)

With this discrepancy we have among A.'s divisions a significant category error. There is potentially a second such error with the soft diatonic division, 1/2 + 3/4 + 1 1/4 tones. The 1 1/4-tone interval is exactly half of A.'s fourth, and at 249 cents it stands midway between the 8:7 tone (231.1 cents) and the 7:6 minor third (266.9 cents). A. evidently means to have 1 1/4 tones represent the septimal tone 8:7 here. But the 3/4-tone central interval and semitone below it look like the Archytan chromatic and (in)tense chromatic of Ptolemy (see Appendix i), making the division seem more nearly chromatic than diatonic. (Winnington-Ingram (above, note 1) points out (p.201) that A. seems to use the 1 1/6-tone interval, in the unnamed diatonic, to represent the ratio interval 8:7.) In such case, this is a tense chromatic division, rather than a soft diatonic.

18. For M. Kolinski's description of the experiments on the size range of the perceptible semitone, see the citation above, Appendix i, note 5, p.178. The "Euri-

pides" fragments (DAGM, 12-21; AGM 284-7) are transcribed both in the enharmonic (West) and the chromatic (Anderson, MMAG, 210-22). The "Byzantine Treatise on Tragedy," ed. with commentary by R. Browning in Geras: Studies Presented to George Thomson ..., ed. by L. Varcl and R.F. Willets (Prague, 1963), p.61-81, argues persuasively that Euripides himself likely favored the more "modern" chromatic. (Winnington-Ingram furnished the commentary on the musical part of the treatise, which dates from around 1300 and is attributed in part to Michael Psellus.)

That consecutive quarter tones were considered difficult to sing is confirmed by AQ 1.9, 16.3-18 (GMW 2, 418); cf. Aristoxenus, Harmonics, 19.15-19 (GMW 2, 139); it is hard to believe in their practical use in melody.

19. The basic scale of rāga Guṇakalī is, based on c, c - d♭ - f - g - a♭ - c'; according to Daniélou, the second degree (komal re) and the sixth degree (komal dha) are about 40 cents higher in ascending melody than in descending (p.173-5). He writes that "it should be remembered that to divide the tone into several intervals does not mean that one uses intervals smaller than a half-tone, because those divisions are never played in succession but only in relation with other notes" (p.176). (This important book unfortunately must be used with considerable caution.)

In his extensive study of the origins of the Greek enharmonic genus, Die Enharmonik der Griechen (Bonn: Verlag für systematische Musikwissenschaft, 1963), Martin Vogel seems to suggest a similar disposition of the pitches of the enharmonic's divided semitone: "In der griechischen Enharmonik waren die Vierteltöne nicht essentiell [structural], sondern akzidentell [incidental]" (Part 1, p.142). Certainly intervals of up to the size of a quarter tone or so are commonly found as intonational inflections of a given interval, as in the above rāga example, or in blues melody. We have already seen semitones as small as 63 cents, and as large as 133, a difference of 70 cents (the size of the just chromatic semitone, 25:24!).

20. See "Some Experiments in Interval Affect," Appendix i, above, p.179ff.

21. Some later theorists (including Ptolemy and Boethius) were highly critical of A.'s careless assumptions, contradictions and oversights. Cf. Gibson, above, note 2, on later Aristoxenian theory, in her Chapter 6, as well as comprehensive

treatment up to the Byzantine theorist Bryennius, around the early 14th century, in Thomas Mathiesen's Apollo's Lyre: Greek Music and Music Theory in Antiquity and the Middle Ages (Univ. of Nebraska Pr., 1999), Chapters 5-7.

22. The latter-day semitone--since the 19th century tunable with increasing precision by means of beat-counting, and, more recently, using electronic tuners--gives an even less adequate measure of the best musical practice of our time than A.'s intervals did of his. Among the many shortcomings is the frequently encountered music-dictionary definition of "interval" simply as "the distance between two pitches," neglecting entirely the more important matter of the relationship of the two defining pitches of the interval (an account that the integer-ratios provide), as well as the affect associated with the specific interval. The best study known to me of intervallic relationships and affect is W.A. Mathieu's Harmonic Experience (Inner Traditions International, 1997), an intensive tutorial in the subject. A.'s definition of interval as the difference between pitches (diaphorá tis ... táseōn): 15.26f. (136); as the linear distance (diástasis, translated by Barker as "extension") between higher and lower pitches: 13.31-14.2 (135), 15.4 (136).

(no text)

Appendix v: A Reconstruction of Sappho's "Fragment 1" in Archytan Enharmonic*

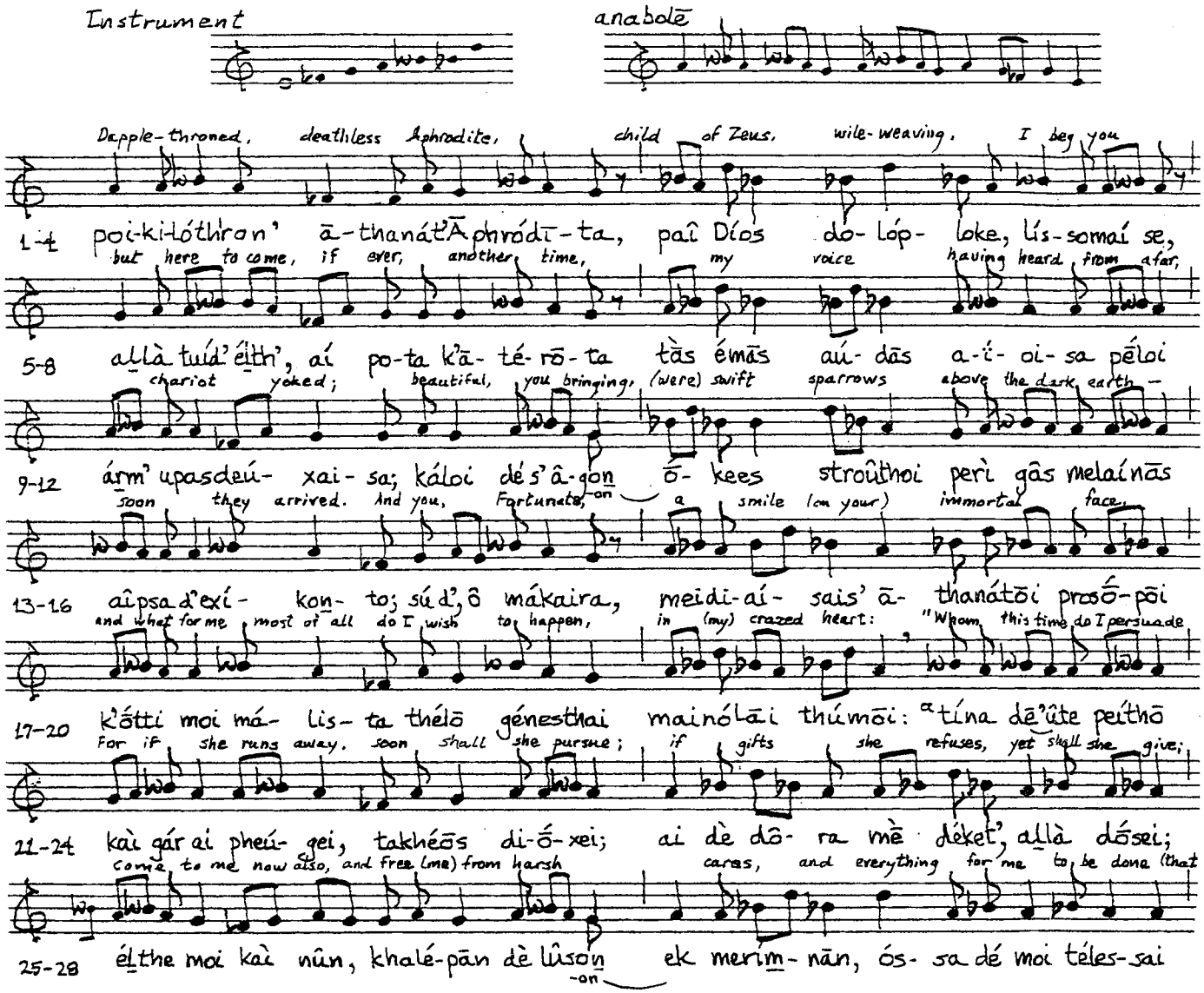
This setting expands my earlier version in Leedy 1997, p.32-5, offering an opportunity for experiments in scale construction and in reconciliation of prosody (word-accent profile) and melodic repetition in strophic composition. (See Appendix vi, "Prosody versus Melody," below.) I will mention here only the treatment of what seem to be correspondences of climax words in the second and third lines of the strophes, readily seen in the parallel layout of the seven strophes on the following two pages.

The mode is my adaptation of the Mixolydian harmonia, traditionally associated with Sappho, "Plutarch" 1136c-d (GMW 1, 221), with two significant modifications from the ancient Mixolydian given in AQ 1.9 (GMW 2, 420): I have found it necessary to lower, arbitrarily, the highest pitch in AQ's scale by a tone (e" to d" in our pitches for female voice); and I have forgone the pyknon (p.53, above) in the lower tetrachord. The result is a lower diatonic tetrachord and (depending on the tuning chosen) an upper enharmonic tetrachord or trichord.

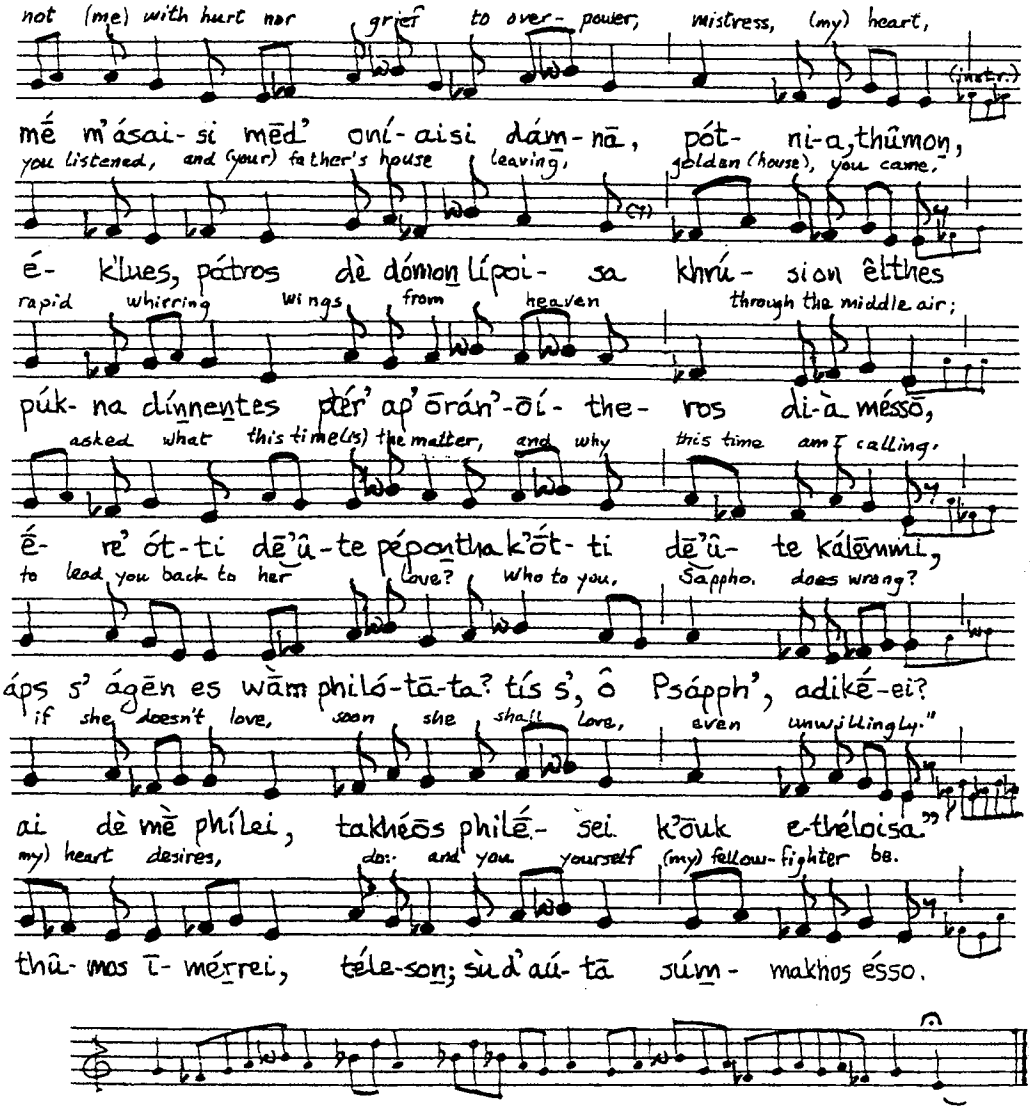
The presentation is similar to those of the Chapters above; female voice is, however, specified. The rationale for the Archytan tuning is to be found in "The Enharmonic Genus in Practice," Appendix iv, above, p.171f. In the notation, ♭ indicates a lowering of the pitch by a semiflat, an approximate quarter tone, 𝄳 by a flat and a half, or midtone (3/4 tone).

Three tunings are possible and practical, the Archytan (my preference, suggested to me by Daniel Wolf), the "Pythagorean," and the 5-limit just. In the latter two, the ♭ before all f's can be ignored; b'♭ and b'𝄳 are consolidated to the pitch b'♭ . The 4ths/5ths of the "Pythagorean" version are e-a-d-g-(c)-f-b♭ . In the 5-limit just tuning, e-g is the same sequence as that just mentioned, with f and b♭ set as 5:4 major thirds to a and d respectively; alternatively, g can be set as a 6:5 minor third above e. (See "Tuning Procedures", Appendix i, above.) For the Archytan scale, tune the 4ths-5ths e-g as above; tune b♭ to d as a 5:4 major third; tune b𝄳 to g as a 7:6 minor third, and f♭ a pure 4:3 below b𝄳. The ascending scale is then: e' 28:27 f'♭ 8:7 g' 9:8 a' 28:27 b'𝄳 36:35 b'♭ 5:4 d".

*This composition is preserved complete (alone among Sappho's works) in DH 23.



Performance notes: The instrumental anabolē, links between strophes, and close given above are suggestions; longer or shorter elaborations of them can be tried. The short syllables ending lines 5 and 25 could perhaps actually be sung as short (rather than the expected line-ending long), falling abruptly (a chronos too soon) into the following line, heightening the emotion.


not (me) with hurt nor grief to over- power, mistress, (my) heart,
mḗ m'ásai- si mēd' oní- aisi dám- nā, pót- ni-a, thûmon,
you listened, and (your) father's house leaving, golden (house), you came,
é- klues, pátros dè dómon lípoi- sa khrú- sion êlthes
rapid whirring wings from heaven through the middle air;
púk- na dínnentes pér' ap' orán'- oí- the- ros di-à méssō,
asked what this time(is) the matter, and why this time am I calling,
ê- re' ót- ti dē'û- te pépontha k'ót- ti dē'û- te kálēmmi,
to lead you back to her love? Who to you, Sappho, does wrong?
áps s' ágēn es wām philó- tā- ta? tís s', ô Psápph', adikḗ- ei?
if she doesn't love, soon she shall love, even unwillingly."
ai dè mè phílei, takhéōs philḗ- sei k'ōuk e-théloisa."
my) heart desires, do: and you yourself (my) fellow-fighter be.
thû- mos ī- mérrei, téle-son; sù d' aú- tā súm- makhos ésso.

Appendix vi: Prosody vs. Melody

In modern times, received opinion has for the most part held that in strophic composition the melodic profile of words--the prosody--could not be maintained against the necessity of a repeating melody common to all the strophes. In AGM, for example, West writes that "in strophic compositions ... correspondence of accents and melody could only have been achieved if each strophe sung to a given melody had been so composed as to have the same pattern of word accents. So far as we can see, this was never attempted" (p.198-9).[1] Dale states that "strophe and antistrophe pay no attention to correspondence of word-accent" ($LGMD_2$, p.204).[2]

My own investigation into this problem began, with due skepticism, as an attempt to create a recognizably repeating melody in strophic works of Anacreon, Sappho and Pindar. I was actually quite surprised to discover that it was not in fact difficult to fit a repeating melody to the accents, with minor adjustments here and there, and only the occasional apparent moment of intractability. It seemed almost as if the composer was helping me accomplish this, and a cursory analysis seemed to suggest that there was in reality--whether intentional or otherwise--considerable agreement of accents from one strophe to another, along with a related feature, in Pindar especially, namely, that of a correspondence of key words as well as words of a given number of syllables. I was confident enough of success at creating a repeating melody, encouraged particularly by my second experiment with Pindar, the 12 strophes of the Fourth Nemean Ode (Appendix vi below, p.230ff), to conclude that whatever Pindar's compositional methods may have been, the (to me) convincing melodies I had constructed for three Victory Odes would at least make it possible to sing them.

It was not until later that I actually began to tabulate accentual correspondences for strophic works of Pindar, Aeschylus, Sophocles, and Euripides, along with non-strophic line-pairs--for example, adjacent lines of iambic trimeter --and, with minor adjustments of method, line-pairs in Homer and Hesiod. I tallied more than 700 pairs of lines, and although there was a substantial variation in the number of accentual correspondences, the number was higher than that of what I considered to be random distribution. Devine and Stephens's The Prosody of Greek Speech (p.24, n.1, above) reports (p.169-70) that "in a sample of non-

+ stichomythic iambic trineter from [Euripides's] Orestes, the observed proportion of [accentual] matches ... was found to be nearly identical, ... 36%, ... to the expected, ... 37%." Strophe-antistrophe matching, however, "exceeded the expected": a dochmiac chorus from Orestes, 57% vs. 44%; aeolic choruses from Euripides's Ion, 54% vs. 38%; his Electra, 67% vs. 48%; "and for other lyric meters as well." For ionic, 60% in Aeschylus's Persae, 53% in Euripides's Bacchae; and for dactylo-epitrite, 56.5%. These figures are very close to my own.[3]

A more detailed study of accent in selected works of Alcman, Alcaeus, Sappho and Pindar was published in 1970 by Erik Wahlström: "Accentual Responsion in Greek Strophic Poetry" (Helsinki: Commentationes Humanarum Litterarum 47, p.5-22),[4] in which he concludes (p.5) that his study's "results seem to indicate that there did, in fact, exist an accentual responsion, though of a much freer kind than the metrical responsion." I will attempt a brief summary of his methods, which are straightforward.

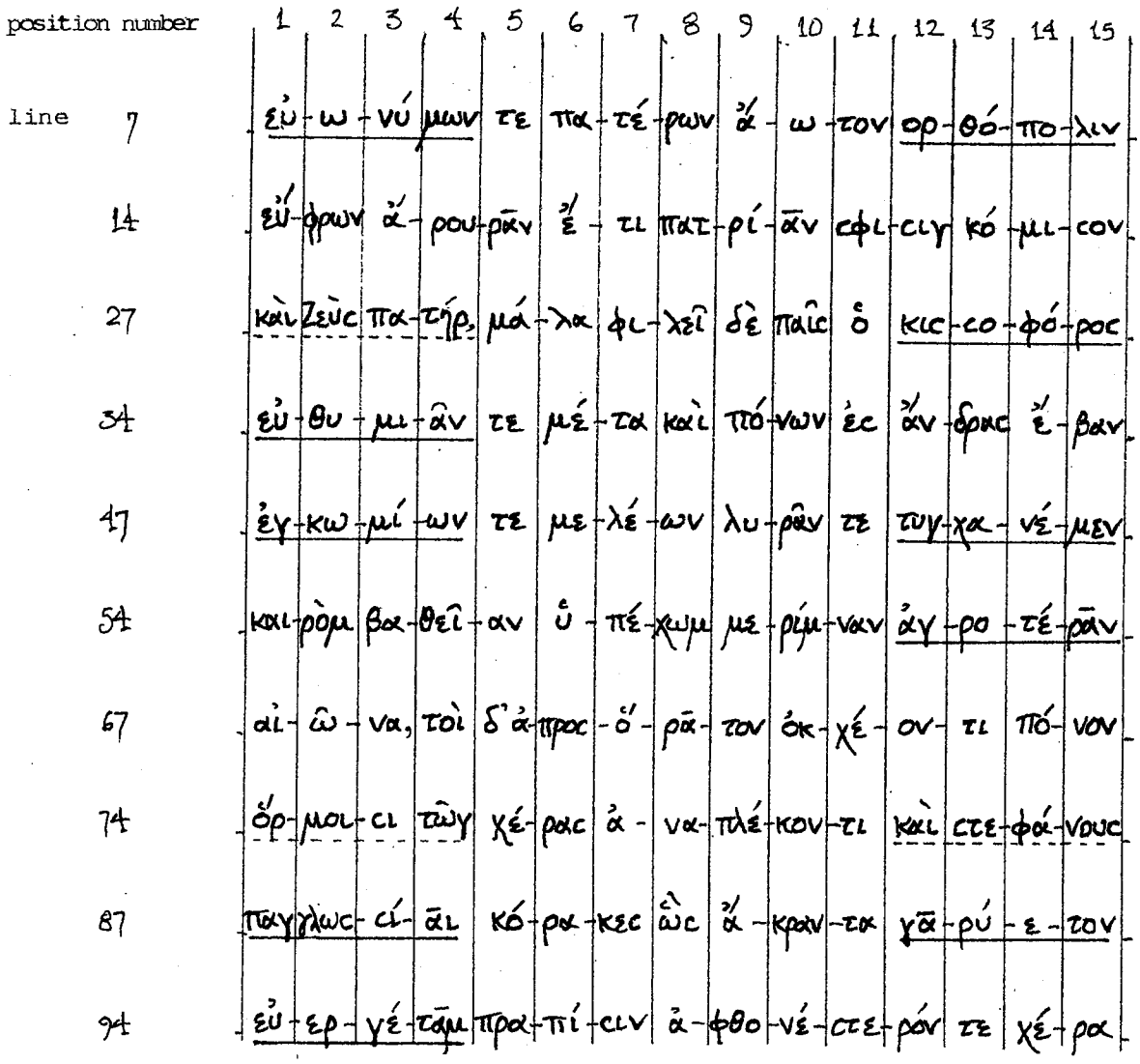
He simply sets out in parallel the first lines of all the strophes/antistrophes, then the second lines, and so on, arranging the syllables in vertical columns, adding the number of accents (of any kind) in each syllable-column. (See the example on the following page of my similar analysis of Olympian 2 of Pindar, strophe/antistrophe 7.) For the seven first lines of Sappho fr.1, then, he arrives at the following accent totals (I give only line one here, transliterated, with the accent totals below each of the eleven syllables):

strophe line 1	poi-	ki-	ló-	thron'	a-	tha-	nát'	A-	phró-	di-	ta [.]
accent totals	5	2	2	6	2	0	6	1	6	3	0

He then (p.9) does a simple calculation of averages, finding that for the entire poem, with 112 accents and 266 syllables, "the average number of accents per column" is 2.7. He continues,

> If the accents were distributed according to chance we should expect a preponderance of columns with 2, 3 or 4 accents, and few with 0, 1, 5, 6 or 7 accents. As a matter of fact, there are no less than three columns with 6 accents and one with 5, while two columns are entirely devoid of accents and one has only one. The accents are manifestly not distributed according to chance.

Pindar: Second Olympian Ode, strophe/antistrophe 7



5 tetrasyllabics (underlined) plus καὶ Ζεὺc πατὴρ, ὄρμοιcι τῶν

5 tetrasyllabics (underlined) plus καὶ cτεφάνουc

Though fragmentary, the Alcman and Alcaeus compositions seem, in his analysis, also to show specific, favorite accent-positions in a given line. The numbers for the lengthy Pythian 4 of Pindar (13 triads, 8 lines in the strophe/antistrophe, 7 in the epodes), and of the monostrophic Nemean 4 (12 8-line strophes), show as well a matching of accents unlikely to have been created by chance. These numbers, despite the relatively small sample sizes, suggest to me quite irresistibly (as they do to Wahlström) that a kind of accentual responsion was a deliberate part of the compositional process of strophic works.

In Chapters 8-9 some guidelines were introduced, both general and specific, for the melodizing of various kinds of strophic poetry, particularly with respect to the examples by Alcaeus, p.112-113, above, and Bacchylides, p.115-17, and in the section "Inventing Strophic Melody" that follows, and in the consideration of "stock" tunes for a group of scolia, p.130-2. I consider all of the reconstructions in these pages to represent the state of my working methods at the present time. The main principles can be summarized as follows:

1. In strophic composition, melody (which of course includes rhythm) is the most important unifying factor. In the periods and styles of the composers represented here, from Homer on, it is the words that the listener's attention is fixed upon: a simple repeating melody lifts and carries them to the ear. Melodic variety, in triadic composition, is provided by the epodes' different melody.

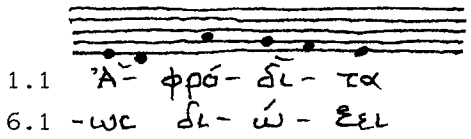
2. Melody generally confirmed, or at least did not contradict, prosody.

3. The recognizable overall shape or gestalt of a melody, as it repeats for each strophe, is not disturbed by sporadic, minor variations in detail.

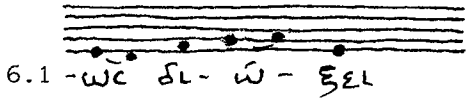
This third principle is really a claim, but I have been convinced of its validity by actual practice. It is the fixity of writing, specifically that of musical notation (and, more recently, recorded performances), that gives us the notion of an inalterable melodic line; this rigidity is not at all characteristic of oral cultures, such as that of ancient Greek music. Even in Schubert's Winterreise there are small melodic differences here and there from strophe to strophe, no doubt coming from impromptu choices of a particular singer, or perhaps from the composer. In fact, as jazz musicians, especially, know, it is difficult or

impossible to put into musical notation the spontaneous alterations that occur in a performance of aurally learned music. In many musical cultures, variable detail of this kind is often a delight to the listener.

There is a small illustrative example of this in Wahlström's treatment of the Sappho poem. In his Ex.2, p.12, he gives for the final four positions of the + first strophic line that fits the accentual profile in all strophes but the sixth (I give the line only in strophes 1 and 6):



Melodic leaps, such as Wahlström's ascending fifth, must be placed with great care, owing to the accentual imperative; it will not escape notice that my own melodic realizations are overwhelmingly conjunct. Nevertheless, even here, I think Wahlström's melody could, without destroying its affinity with that of the other six strophes, be changed in stanza 6 to:



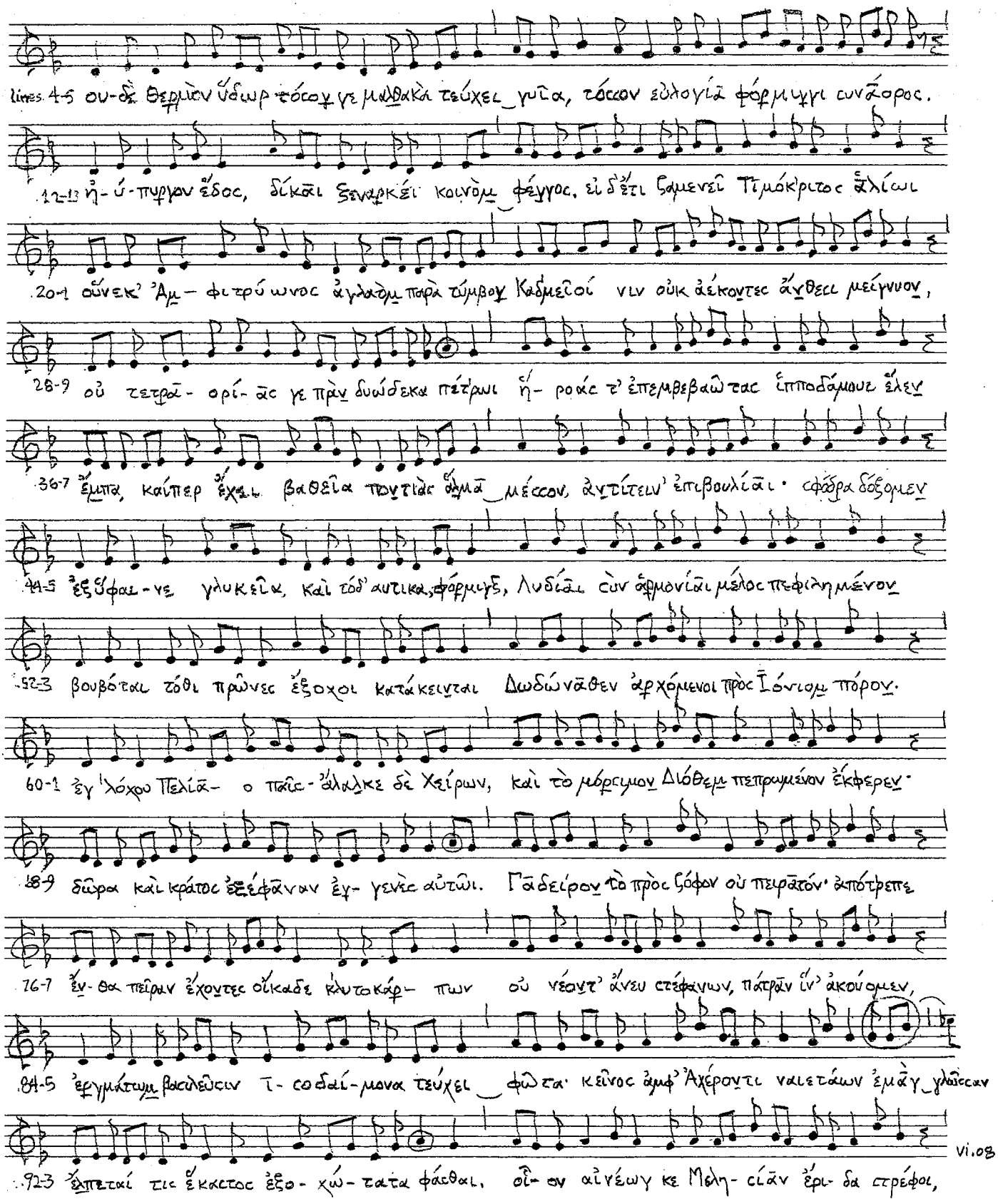
Wahlström speculates about the one case of melodically irreconcilable accent, the non-correspondence of long oxytone and perispomenon (final-syllable acute and circumflex) at line end, giving as an example from strophe line 5 of Pindar's Pythian 4, where line 51 ends with theôn and line 36 with thorón: "Since the perispomena [in this strophe-line of Pythian 4] are in a majority, the melodic peak on this particular syllable is assumed to have occurred on the first mora [half of the two-unit long]. Accordingly, the listeners must have heard 'θορῶν', not 'θορών' in line 36, which in this particular case is not likely to have caused any misunderstanding"(p. 9). As I showed in examples above, my solution is to keep the prosody as given, allowing the instrumental extension to complete the melodic cadence.

To facilitate the recognition of the correspondences of accent, it is practically indispensable to write out, as Wahlström has done (and as shown in my example two pages previously), all the corresponding lines together in parallel. (My realization of Sappho fr.1 in the previous appendix is set out in this way, as are lines from the scolia, above, p.132.) As I noted earlier, such a deployment has been necessary for my method of reconstruction, where for each corresponding line a trial melody is adjusted incrementally until it fits all the corresponding lines as closely as possible. As an example of this I offer to anyone interested, on the following page, an example of a "worksheet," showing melodic reconstruction of the texts of strophe, lines 4-5, of Pindar's Nemean 4.

Examining the original composition in this way reveals some further correspondences. One is the appearance in the same position of names, or of important "climax" words, as in the Bacchylides ode in Chapter 8 (p.114-5), and in the example above from Pindar's Olympian 2. The "key" words or phrases that occupy identical positions are underlined; these correspondences do not seem, to me at least, to arise from accident or coincidence. In Lionel Pearson's important study, "The Dynamics of Pindar's Music: Ninth Nemean and Third Olympian" (Illinois Classical Studies, II (1977), 54-69), the principal subject of which is the necessity of rests to the rhythmic structure of Pindar's music, the author observes (p.66-9) textual correspondences of words "that match each other in metrical form, in tonic accent, and often in sound as well"(p.66). Earlier scholars must have noticed these textual correspondences, but Pearson's is the first published study known to me to have called attention to them.[5] In this paper altogether, then, Pearson points out three important strophic correspondences beyond metrical responsion: that of rests, which seems as strict as that of meter; that of accent, freer but clearly present; and that of text, inconsistent but quite likely deliberate.

A further revelation of this parallel arrangement seems to me to be that of a possible corresponding affect or ethos. At least in my imagination, for instance, I hear the fourth strophic line of Nemean 4 (next page) as relatively relaxed, even "neutral" in tone, but the fifth lines almost all as having a rising affect (and as one can see, this is the basis of my melodic treatment). In the case of the Sappho poem, I sense a zenith of intensity in all seven strophes at

Pindar: Nemean 4, strophe, lines 4-5 6



about the middle of the second strophic line--again, my realization (Appendix v, above) reflects that impression.

In closing, Wahlström summarizes (p.22), "[I]t would have been an inhumanly difficult task to compose large-scale poetry which responded both accentually and metrically, and which in addition was good literature. As it is, even a cursory examination of the accentual responsion"--and I might add, of the frequent textual correspondences, and perhaps even that of affect--"in, for instance, πολυλλόθρον' or the fourth Pythian breeds a new respect for the technical skill of the poets."

NOTES

1. "Correspondence" here would be the prosodic equivalent of metrical correspondence, or responsion, where, as we have seen, the rhythmic patterns of corresponding strophes are in effect identical.

2. Clearly, the flagrant melodic contradictions of word-accent in the "Euripides" fragments (DAGM, p.10-21; AGM, p.284-7) have been influential--excessively so, in my view--on scholars' thinking about this crucial issue ($LMGD_2$, p.204-5; MMAG, p.213, 219-22). Dale seems rather uncomfortable with her conclusions.

Arguments for the overriding of prosody by melody in strophic compositions include those of Warren Anderson, in his judicious evaluation, "Word Accent and Melody in Ancient Greek Musical Texts," Journal of Music Theory 17 (1973), p.186-202 (p.196: "While the old Hellenic music did apparently have modal and rhythmic simplicity, there is little reason to suppose that it also embodied any close correspondences between accent and melody.") Cf. also his MMAG, p.106-7.

Anderson adduces the relationship of melody to tone in Chinese and African tonal languages, but their cases are not parallel, as ancient Greek was not a tonal, but a pitch-accent language. The most extensive analysis of this subject I am aware of is that of Devine and Stephens (p.24, n.1, above), especially Chapter 5, "Word Prosody"; see also their synopsis of the pitch accent in Japanese, p.211-15.

It seems more than likely that with the "New Music"--if not earlier--the melodic function of the word-accents was largely or entirely ignored in favor of the overall strophic melody: as Dionysius wrote (quoted above, Appendix ii, p.179), "the words should be subordinate to the melody, not the melody to the words."

3. In my comparisons, I was particularly struck by the high rate of correspondence in Euripides's Troades, where the chorus 511-30=531-550 showed an accentual responsion rate of 58.2%, the highest I was able to find anywhere in my selected passages, an anomaly, if one believes that in an apparently relatively late Euripidean tragedy the "New Music" orientation toward melody would have prevailed.

4. Alcman, fr.1; Sappho, fr.1; Alcaeus, fr.129; Pindar, Pythian 4 (longest of the Victory Odes) and Nemean 4.

5. Cf. also AGM, p.200.

6. This is a typical work-sheet such as I use to negotiate, from line to line, a melodic gestalt that will fit, with small alterations, all corresponding lines --in this case, 12--of text. Circled are three similar excursions (lines 28, 68, 92) that violated my guidelines, but that seemed superior to tamer alternatives. A chorus would have no difficulty with these variants in performance, nor with the sole required enjambment, lines 85-6.

Appendix vii: Three Victory Odes of Pindar in Settings for Musical Performance

> Novem vero lyricorum large Pindarus princeps spiritu, magnificentia, sententiis, figuris, beatissima rerum verborumque copia et velut quodam eloquentiae flumine ...
>
> Of the nine lyric poets,[1] Pindar is far the greatest, for inspiration, magnificence, sententiae, Figures, a rich stock of ideas, and a real flood of eloquence ...
>
> Quintilian, Institutio oratoria 10.1.61, transl. Russell, LCL

The brief eleventh Olympian Ode of Pindar was my first venture in reconstructing music for a more elaborate composition, having spent considerable time with Homer, Anacreon and Sappho, as well as on the preparation of Greek examples for Leedy 1997. As I wrote in the original (2001) introduction to these three odes, "The music ... came out of the words by my usual method: a repeating of the verses again and again until melodic shapes emerged, which were worked out without notation by a sort of brute-force empiricism."

The door to Pindar was opened for me by two signal publications: William H. Race's two volumes of newly edited and translated Odes and Fragments, in the Loeb Classical Library (1997), and M.M. Willcock's selection of seven Victory Odes, the Greek edited with an extensive introduction and commentary, in the Cambridge Greek and Latin Classics series (1995). I was drawn, certainly, by curiosity, but could never have imagined the thrall in which Pindar's extraordinary compositions came to grip me. There are many English translations of the Victory Odes (also known as Epinicia), some very good, but no translation I have seen has been able to capture Pindar's shimmering eloquence; beyond this, of course, is his musical brilliance, which remains inseparable from the Greek words.

Pindar has always been admired, but in recent times less often understood and appreciated, and it has been assumed that his works could never again be experienced as the composer intended, as the celebratory union of voice, instruments and dance that he created. My own experiments in reconstruction and performance lead me to believe that we can in fact recapture something of the complete nature of these compositions, a nature apprehensible only through musical performance. Even the simplest chanted melodic realization of the texts according to their rhythm and prosody raises the words to a higher level of eloquence than spoken

recitation, as they take on an incantatory power of rhythm and tone that transforms them. They were meant to have this power, which is released only through singing. Musical realization is of fundamental importance in revealing Pindar's structure of word-melody, rhythm and form.[2]

The Victory Odes were sung and danced in public performances by a chorus of (young?) men (cf. Nemean 3.65-6), with accompaniment that included phorminx (a kind of lyre) or aulos (the twin double-reed pipes), or both. Odes could be performed by a single voice privately (or publicly?), as we know from the composer himself (Nemean 4.13-16). Choral performances today, by men's or women's voices, but probably best not mixed, could be accompanied by harp and a pair of woodwinds, oboe and English horn or clarinet, for example.

Pindar's phorminx had the traditional seven strings (Pythian 2.70-71, Nemean 5.24). The harmoniai (modes) I use here are all familiar from the examples and music in the chapters above. The only questions that arise are about tuning. Nemean 4, in what is my relaxed Lydian mode (above, p.57; the composer mentions the Lydian harmonia in line 45), needs the sweetness and resonance of the pure 5:4 major-third tuning as a complement to its content and character, in my opinion. With the choice of the Dorian for Olympian 2, suggested, again, by the nature of the Ode, there is a decision to be made about its tuning, whether in favor of the relative mildness of the pure major-third, as compared to the more severe, brighter-sounding "Pythagorean" tuning (see Appendix i, p.170-1, above). The latter is perhaps better suited to the Ode's character, but I leave the choice to the performer.

Pythagorean fourths and fifths would seem to be the natural tuning for the hypothetical Phrygian mode (above, p.59, 61) that I use for Olympian 11, and this tuning is perfectly satisfactory. By chance, however, I found a quite unorthodox tuning that I prefer. In it the lower trichord is changed from e 32:27 g 9:8 a to e 7:6 g 8:7 a by lowering the g to a pure septimal minor third 7:6 with e. The upper trichord I leave unchanged, giving the scale

e 7:6 g 8:7 a 9:8 b 32:27 d' 9:8 e'.

It might be reasonably thought that the g - d' interval of 32:21 (729 cents, where the pure 3:2 fifth is 702 cents) would introduce an unpleasant discord, but in fact the tuning is altogether quite harmonious, and it occupies a lower (more consonant) position in the harmonic series, by an octave and a fifth, 18:21:24:27:32:36,

than does the strictly Pythagorean tuning, 54:64:72:81:96:108.[3]

The presentation here differs in some respects from those in the chapters above, which it antedates; the Greek is all transliterated, with the intention of wider accessibility. In the (modern, staff) notation, stemless notes are optional; instrumental parts are in small print; requisite rests are mostly brief. In Nemean 4 a rest is desirable at the end of each fifth strophic line, except at 85-6, where emàn glôssan must remain connected in enjambment. I think it is not impractical for an ensemble of performers to remember a single exception to a consistent rhythmic schema (remember that the singer-dancers, and instrumentalists too, knew the text by heart). At the end of strophe 10 of this ode, there is a marked break, a change of subject; I propose that a purely instrumental strophe--with dance, of course--could occur here, and is provided for in the notation. An instrumental strophe is not unthinkable after the last of the verbal text has been sung; something like this, as I indicate in the notation, could also be a part of a performance of Olympian 11. Pindar's Odes, even the shorter ones, were, I believe, works of quite substantial performance length.

A few other details may be usefully noted: semivowel diphthongs, most frequently with -n, often make a line-ending long syllable, but can also make a line-internal long before a vowel, as at N.4.23 (-en). The lengthened te at N.4.65 is an anomaly; I perform it (somewhat uncomfortably) as long, but it could, as short, be a metrical exception (see Willcock's Pindar Victory Odes (above), 105). Catch-breaths are often necessary in Pindar's heroically expansive phrases; some of these I have marked. I have tried to indicate all consequential long a, i and u. My prosody in N.4.36 (end) is faulty, but could easily be corrected. In N.4, again, the non-corresponding acute and circumflex accents on the final syllables of strophes 3 and 9, respectively, seem to create melodic problems. Difficulties of this kind are taken up in Appendix vi, above; my solution here is to allow the instrument(s) to complete the melodic cadence, as I do deliberately in the epodes of Olympian 2. Correption and digamma are found on occasion.

Olympian 11 and Nemean 4 are fine examples of dactylo-epitrite and aeolic meter, respectively (cf. above, p.104ff., 116, 120ff.). Olympian 2 is, among the Odes, metrically unique; its nature has caused considerable confusion and misap-

prehension. It does not belong, as some metricists claim, to the iambic genre, but is unambiguously cretic (the choriamb at the end of strophe line 7--orthó-polin, etc.--is a mischievous, eloquent diversion), announcing itself boldly in the opening vocative,

Why is our attention still so strongly drawn to Pindar, a composer whose fame rests largely on the creation, on commission, of highly artificial, complex musical works, whose principal purpose was the flattery of wealthy aristocrats and local tyrants, at a time when the archaic social structure was giving way? (Whatever Pindar's own beliefs may have been, there is a modern ring to his assertion, Pythian 11.52-3, that "within a city I find the middle estate flourishing with enduring prosperity, and I censure the condition of tyrannies.")[4]

The richness and vividness of Pindar's language and content are still celebrated. We know virtually nothing about his melodic skill; yet if it is true that, in addition to the perfection of rhythmic responsion in the strophes/antistrophes and epodes, he was able to create melody that could accommodate, as I have attempted to show, the demands of prosody without compromise of his verbal power and beauty, then his compositions are tours de force not only unsurpassed, but unequalled by the work of any other composer known to me, of whatever society or time. No doubt the complexity and intricacy of his poetic and musical expression were beyond the grasp of some in his audiences, and though aspects of his art, for our time and beyond, will remain forever elusive, we can nevertheless, with the restoration of a musical element, come to understand more fully the admiration in which antiquity held him. There are times, especially in a work with the scope of an Olympian 2, when the cumulative effect of words, images, rhythm and melody can be altogether overwhelming.

• • •

The standard critical edition of Pindar's Epinicia (Odes) is that of Bruno Snell and Herwig Maehler (8th edition; Teubner/de Gruyter, 1987). The introductory material in the Race and Willcock volumes cited above provides excellent, brief treatment of the composer and his work; see also OCD_3 "Pindar" by Christo-

pher Carey. Some resources for information on performance history and practice include Anne Burnett, "Performing Pindar's Odes," Classical Philology 84 (1989), 283-93; Christopher Carey, "The Victory Ode in Performance: the Case for the Chorus," a response to Malcolm Heath and Mary Lefkowitz, "Epinician Performance," Classical Philology 86 (1991), 192-200 and 173-91 respectively; and John Herington, Poetry into Drama (above, Foreword, p.iv), 26-31, Appendices III-IV. William Mullen's Pindar and Dance (above, p.81) is helpful in understanding the composer's rhythmic and formal structures. Lionel Pearson's studies of Pindaric performance practice, "Catalexis and Anceps in Pindar: A Search for Rhythmical Logic" (Greek, Roman and Byzantine Studies 15 (1974), 171-91), and "The Dynamics of Pindar's Music: Ninth Nemean and Third Olympian" (Illinois Classical Studies,II (1977), 54-69), have been of great assistance, particularly on questions of colometry, prosody and rests. As noted in Appendix ii, above, however, his rhythmic solutions are to me entirely inappropriate to Pindar's musical style; and his comments on dynamics and tempo in general seem better suited to Wagner than to Pindar.

NOTES

1. The passage continues, "Horace rightly thinks him inimitable for these reasons" (propter quae Horatius eum merito nemini credit imitabilem; cf. Horace, Odes 4.2). The nine lyric poets were customarily regarded as Alcman, Alcaeus, Anacreon, Bacchylides, Ibycus, Pindar, Sappho, Simonides and Stesichorus.

2. The Victory Odes are either monostrophic, consisting of a repeated strophe (here, Nemean 4, with 12 strophes), or triadic, the triad having a strophe and antistrophe with identical rhythmic structure, followed by a rhythmically different epode; the triad may be repeated several times (Olympian 2) or not (Olympian 11).

3. On mixed genera of this type, see Ptolemy 1.16, 38.35ff., GMW 2, 312, with note 144, and accompanying tables of mixed scales, GMW 2, 352ff. Cf. Aristoxenus, Harmonics 1, 7.2ff., GMW 2, 131, on "mixtures of the genera" (mignuménōn ... tôn genôn), a possibly similar idea, contra Barker, GMW 2, 312 n.144.

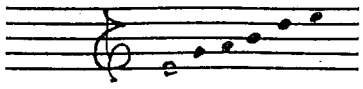
4. tôn gàr anà pólin heurískōn tà mésa makrotérōi/ólbōi tethalóta, mémphom' aîsan turannídōn. For those interested in sociopolitical considerations, a good starting-point is Simon Hornblower's Thucydides and Pindar (Oxford, 2004), ch.3 and 12.

OLYMPIAN 11

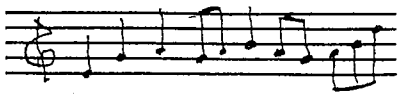
For Hagēsidamus of the Western Locrians, Boys' Boxing (476 BCE)

meter: dactylo-epitritic
mode: ? Phrygian

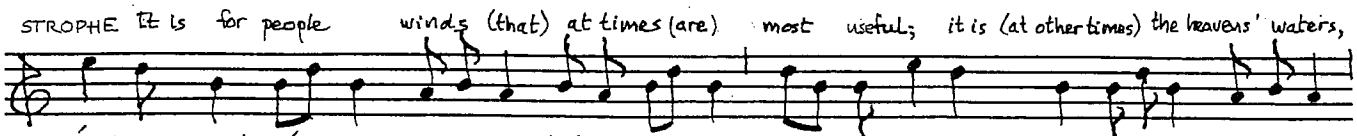
Instrument



Anabolē

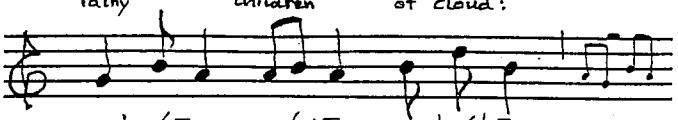


STROPHE It is for people winds (that) at times (are) most useful; it is (at other times) the heavens' waters,



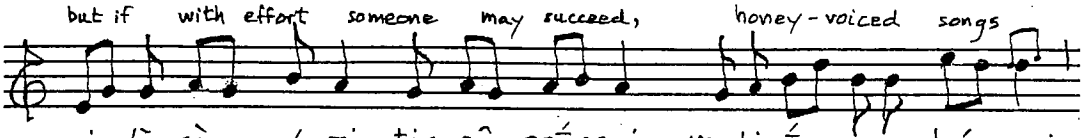
Éstin anthró-pois anémōn hóte pleîstā khrêsis; éstin d' ouraníōn hudátōn,

rainy children of cloud:



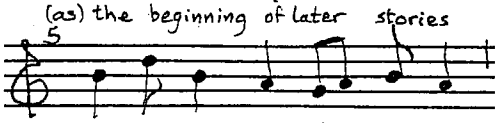
ombríōm paidōn nephélās:

but if with effort someone may succeed, honey-voiced songs



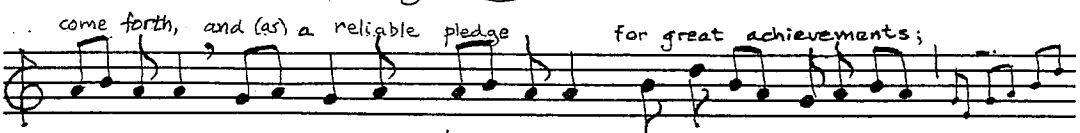
ei dè sùm pónōi tis eû prássoi, meligá-rues húmnoi

5 (as) the beginning of later stories



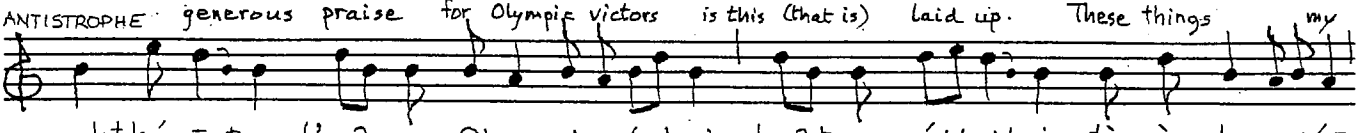
hustérōn arkhà lógōn

come forth, and (as) a reliable pledge for great achievements;



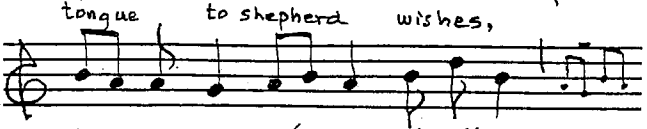
télletai kaì pistòn hórkiom megálais aretaîs;

ANTISTROPHE generous praise for Olympic victors is this (that is) laid up. These things my



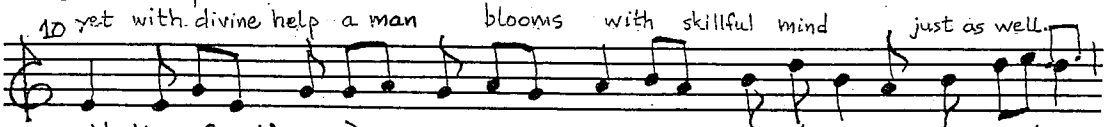
aphthónē-tos d' aînos Olumpioní-kais houtos áṅkeitai. tà mèn hāmetérā

tongue to shepherd wishes,



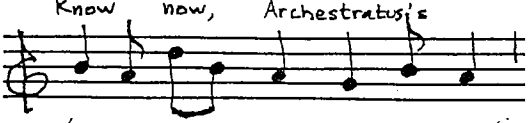
glôssa poimaínein ethélei,

10 yet with divine help a man blooms with skillful mind just as well.

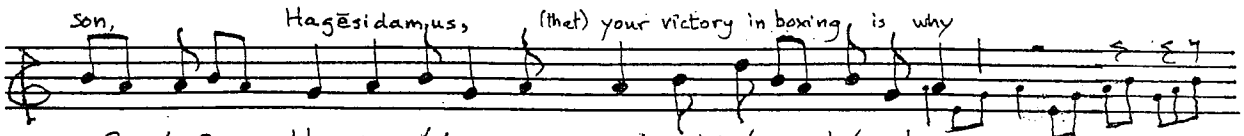


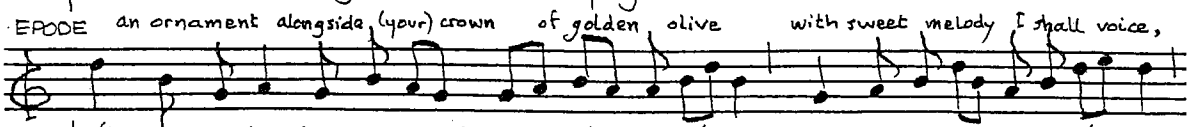
ekh theoû d' anèr sophaîs antheî prapídessin homoíōs.

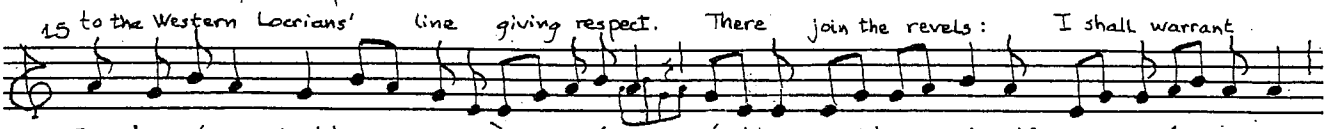
Know now, Archestratus's

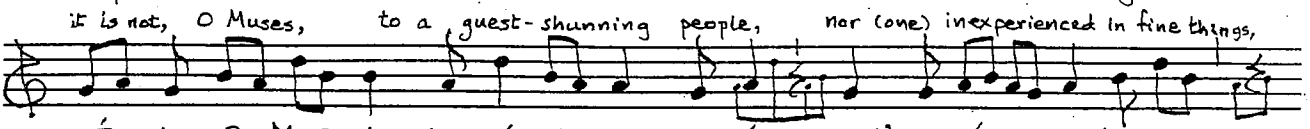


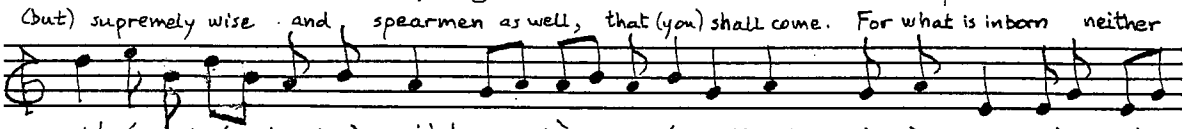
ísthi nûn, Arkhestrátou

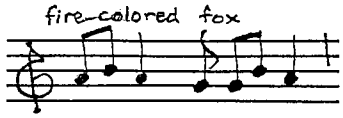

son, Hagēsidamus, (that) your victory in boxing is why
paî, teâs, Hāgē-sídā-me, pug'makhíās héneken

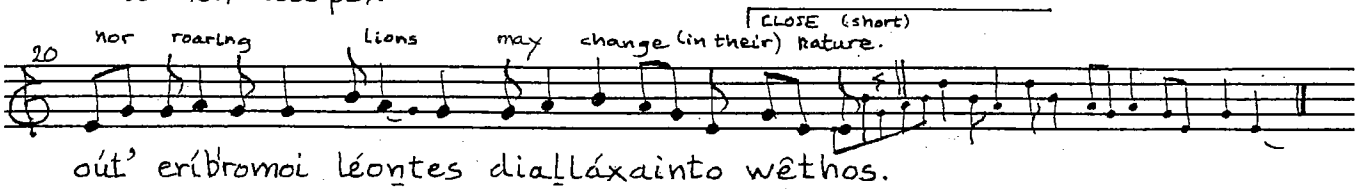

EPODE an ornament alongside (your) crown of golden olive with sweet melody I shall voice,
kósmon epì stephánōi khru-séās elaíās hā-dumelê keladé-sō,


15 to the Western Locrians' line giving respect. There join the revels: I shall warrant
Zephuríōn Lok'rôn geneàn alégōn. éntha suŋkō-máxat': eŋguá-somai

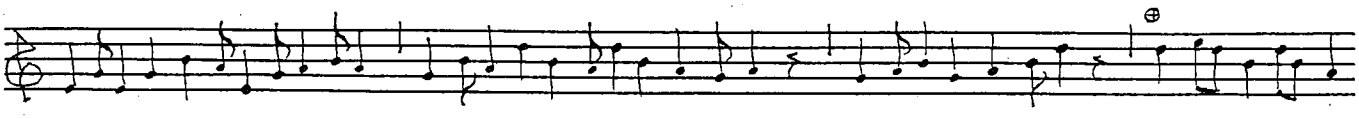

it is not, O Muses, to a guest-shunning people, nor (one) inexperienced in fine things,
mḗ min, ô Moîsai, phugóxeinoŋ stratóŋ mēd' apeírā-toŋ kalôn

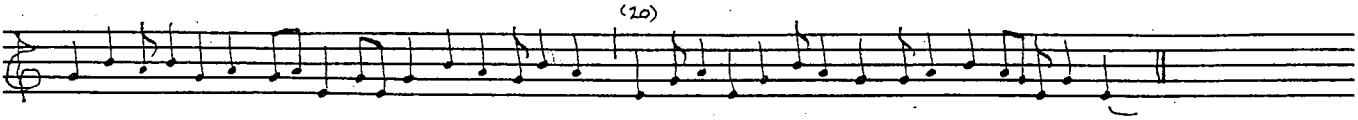

(but) supremely wise and spearmen as well, that (you) shall come. For what is inborn neither
akrósophóŋ te kài aikhmā-tàn aphíxesthai. tò gàr emphùes oút'


fire-colored fox
aíthōn alṓpēx


20 nor roaring lions may change (in their) nature.
CLOSE (short)
oút' eríbromoi léontes dialláxainto wêthos.


CLOSE (long)
(15)
wêthos.



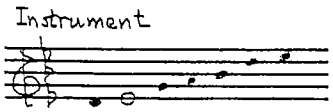

(20)

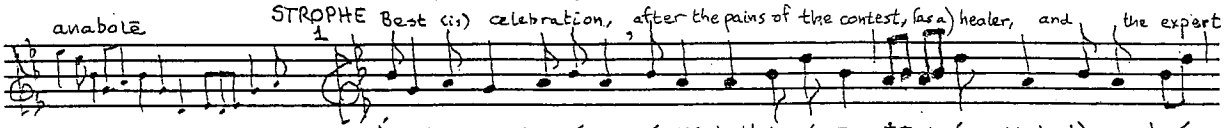
(3-5 minutes)

NEMEAN 4

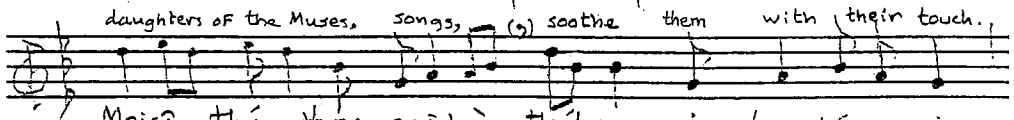
For Timasarchus of Aegina, Boys' Wrestling

Meter: Aeolic
mode: Lydian

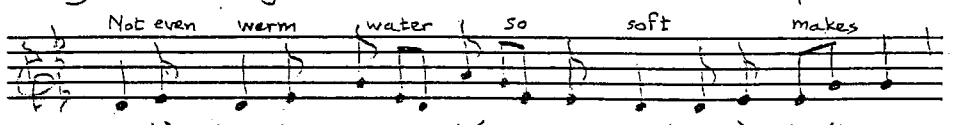




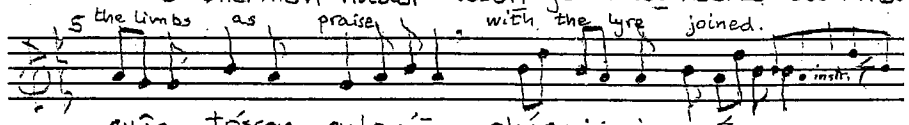
Áristos euphrosúnā pónōn kekriménōn tā-trós; hai dè sophaí



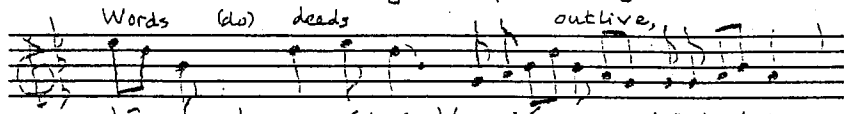
Moisân thúgatres aoidaì thélxan nin haptómenai.



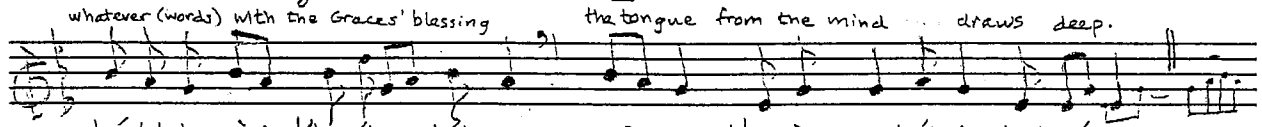
oudè thermòn húdōr tóson ge malthakà teúkhei



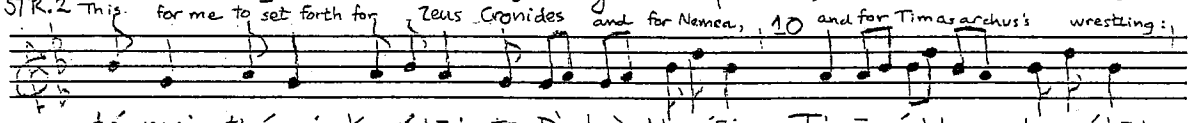
guîa, tósson eulogía phérmingi sunáoros.



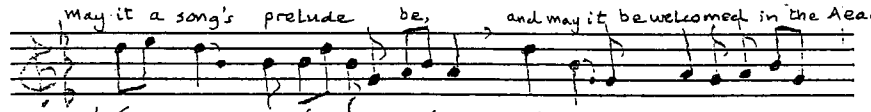
rhêma d' ergmátōn khroniōterom bioteúei,



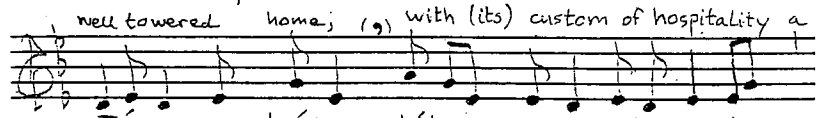
hóti ke sùn Kharítōn túkhāi glôssa ph'renòs exhéloi batheías.



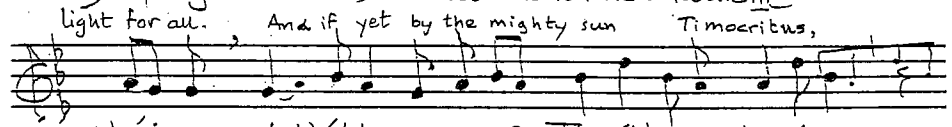
tó moi thémen Kronídāi te Dì kaì Neméāi Timāsárkhou te pálāi



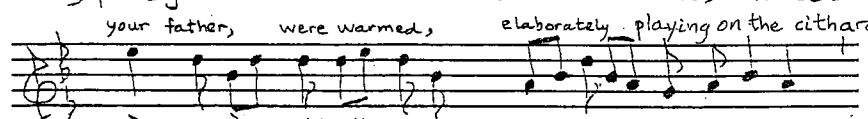
húmnou prokómion eíē déxaito d' Aiakidân



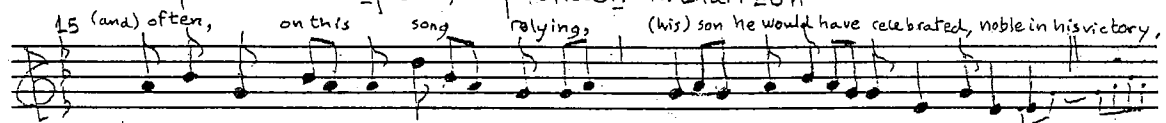
eupurgon hédos, díkāi xenarkéï koinòn



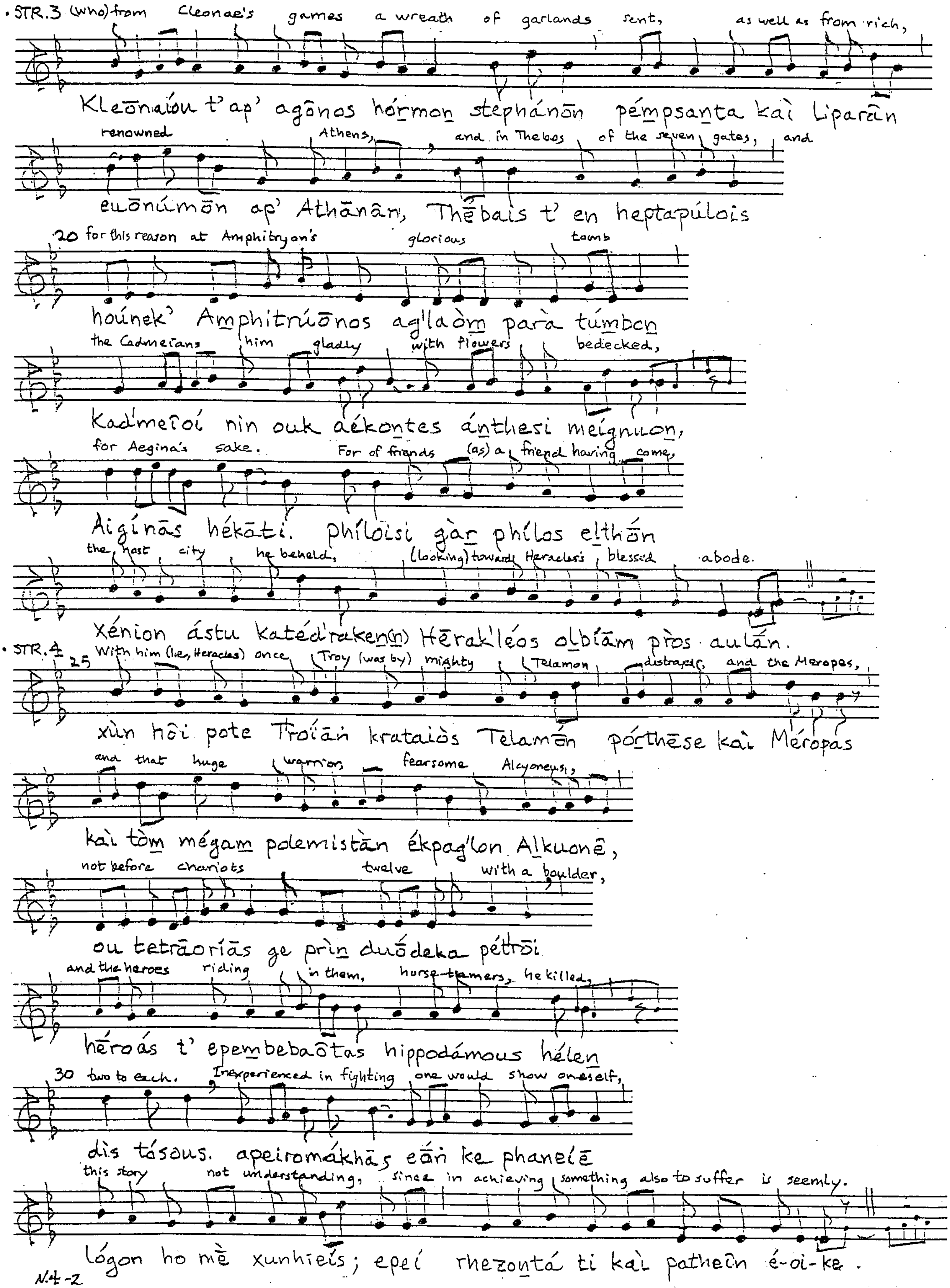
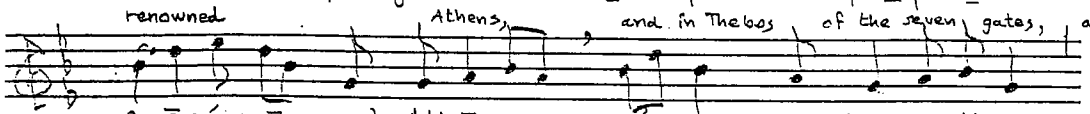
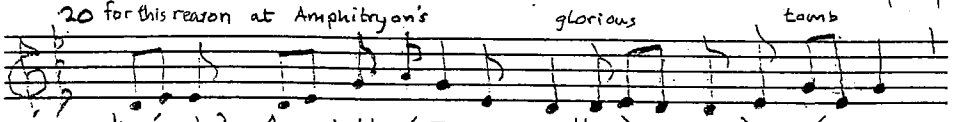
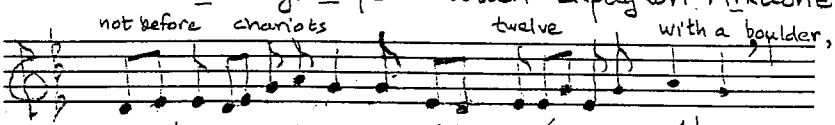
phéngos. ei d' éti zameneî Timókritos hālíōi

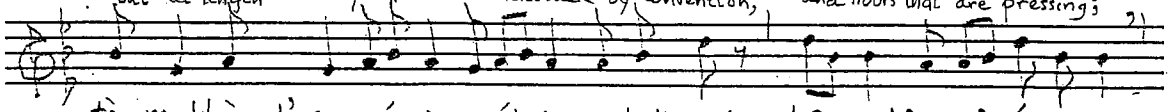


sòs patēr ethálpeto, poikílon kitharízōn



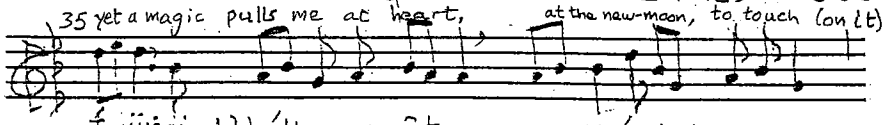
thamá ke, tôide mélei klitheís huiòn keládēse kallínikon


STR.3 (who) from Cleonae's games a wreath of garlands sent, as well as from rich,
Kleōnaíou t' ap' agônos hórmon stephánōn pémpsanta kaì Liparân
renowned Athens, and in Thebes of the seven gates, and
euōnúmōn ap' Athānân, Thēbais t' en heptapúlois
for this reason at Amphitryon's glorious tomb
hoúnek' Amphitrúōnos aglaòm parà túmbon
the Cadmeians him gladly with flowers bedecked,
Kadmeîoí nin ouk aékontes ánthesi meígnuon,
for Aegina's sake. For of friends (as) a friend having come,
Aigínās hékāti. phíloisi gàr phílos elthṓn
the host city he beheld, (looking) toward Heracles's blessed abode.
xénion ástu katédrake(n) Hērakléos olbíam pròs aulán.
STR.4 With him (i.e., Heracles) once (Troy (was by) mighty (Telamon destroyed, and the Meropes,
xùn hôi pote Troíān krataiòs Telamōn pórthēse kaì Méropas
and that huge warrior, fearsome Alcyoneus,
kaì tòm mégam polemistān ékpaglon Alkuonē,
not before chariots twelve with a boulder,
ou tetrāoríās ge prìn duṓdeka pétrōi
and the heroes riding in them, horse-tamers, he killed,
hḗroás t' epembebaōtas hippodámous hélen
two to each. Inexperienced in fighting one would show oneself,
dìs tósous. apeiromákhās eān ke phanelē
this story not understanding, since in achieving something also to suffer is seemly.
lógon ho mḕ xunhieís; epeí rhezontá ti kaì patheîn é-oi-ke.
N.4-2

• STR. 5 But at length to speak I am held back by convention, and hours that are pressing;



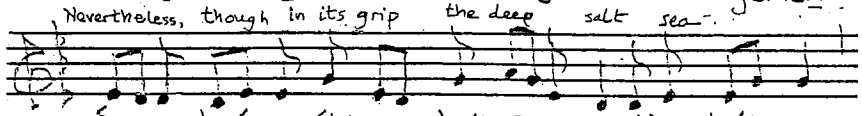
tà maklà d' exenépein erúkei me tethmós hôrai t' epeigómenai;

35 yet a magic pulls me at heart, at the new-moon, to touch (on it).



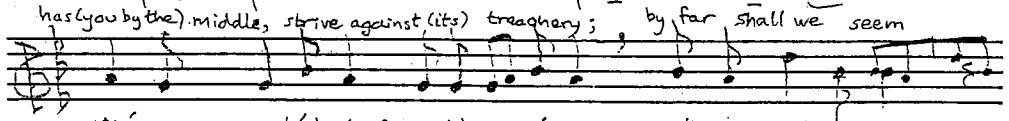
f-üñgi d' hélkomai êtor negmēníāi thigémen.

Nevertheless, though in its grip the deep salt sea



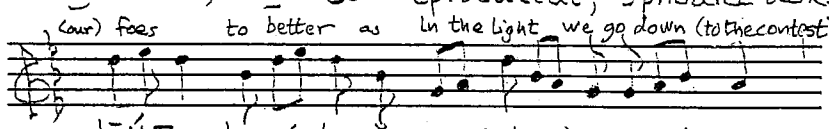
émpa, kaíper ékhei batheîa pantiàs hálmā

has (you by the) middle, strive against (its) treachery; by far shall we seem



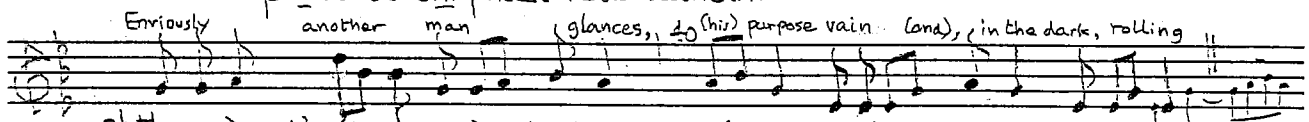
mésson, antítein' epiboulíāi; sphódra dóxomen

(our) foes to better as in the light we go down (to the contest).



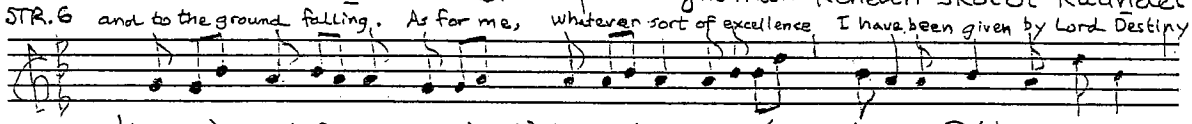
dāíōn hupérteroi em phāei katabaínein.

Enviously another man glances, to (his) purpose vain (and), in the dark, rolling



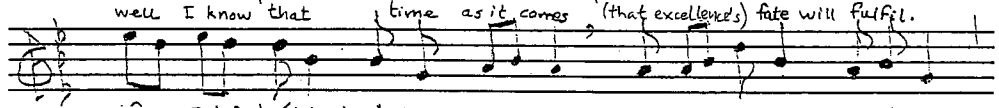
phthonerà d' állos anèr blépōn gnōmāi keneàn skótōi kulíndei

• STR. 6 and to the ground falling. As for me, whatever sort of excellence I have been given by Lord Destiny,



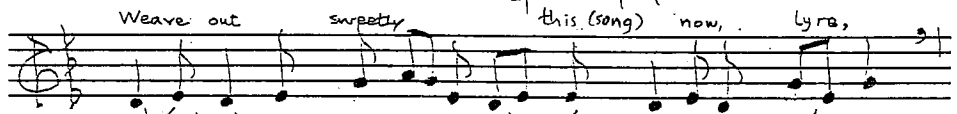
khamaì petoîsan; emòi d' hopoíān aretán édōke Pótmos ánax,

well I know that time as it comes (that excellence's) fate will fulfil.



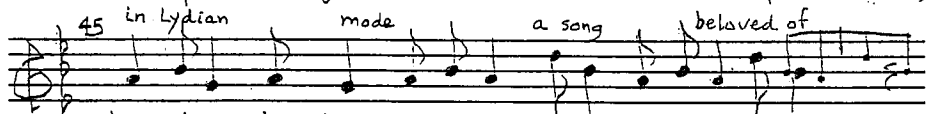
eû oîd' hóti khrónos hérpōm peprōménān telései.

Weave out surely this (song) now, lyre,



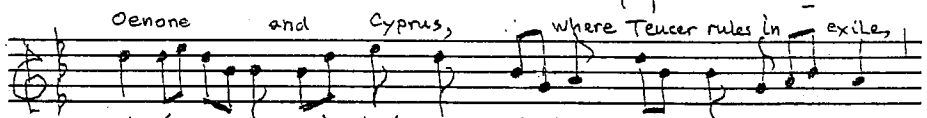
exhúphaine, glukeîa, kaì tód' autíka, phórminx,

45 in Lydian mode a song beloved of



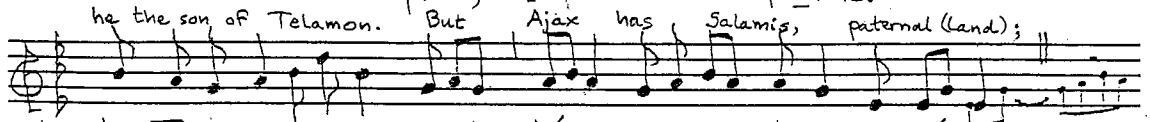
Ludíāi sùn harmoníāi mélos pephilēménon

Oenone and Cyprus, where Teucer rules in exile,



Oinónāi te kaì Kúprōi, éntha Teûkros apárkhei

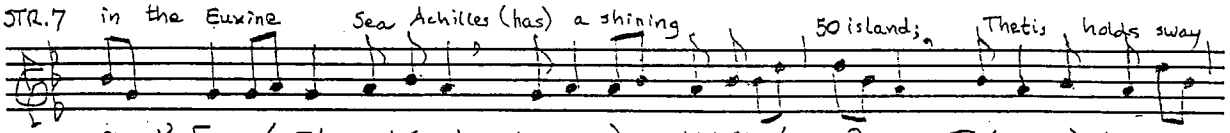
he the son of Telamon. But Ajax has Salamis, paternal (land);



ho Telamō-niádās; atár(r) Aías Salamîn' ékhei patróiān;

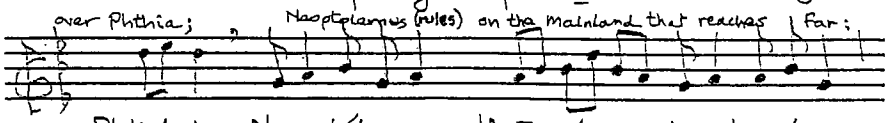
N.4-3

• STR.7 in the Euxine Sea Achilles (has) a shining 50 island; Thetis holds sway



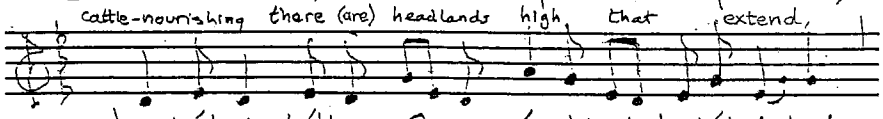
en d' Euxeínōi pelágei phaennàn Akhileús nâson; Thétis dè krateî

over Phthia; Neoptolemus (rules) on the mainland that reaches far:



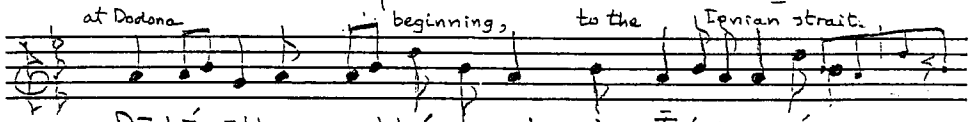
Phthíāi; Neoptólemos d' āpeírōi diaprusíāi,

cattle-nourishing there (are) headlands high, that extend,



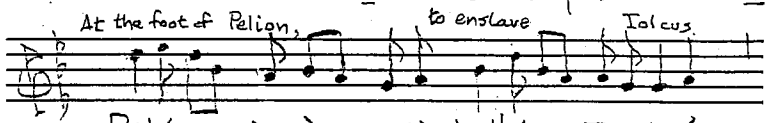
boubótai tóthi prônes éxokhoi katákeintai

at Dodona beginning, to the Ionian strait.



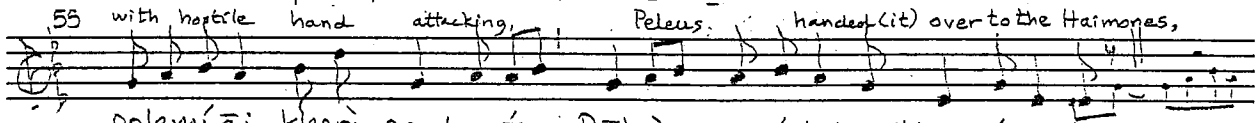
Dōdṓnāthen arkhómenoi pròs Iónion póron.

At the foot of Pelion, to enslave Iolcus



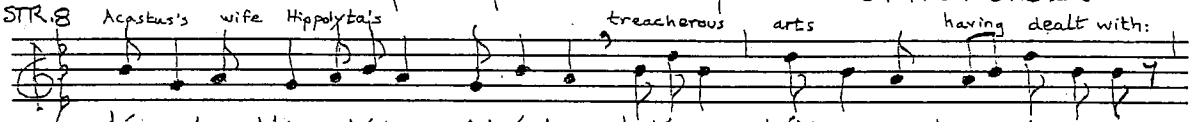
Palíou dè pàr podì latríān Iaolkón

55 with hoplite hand attacking, Peleus handed (it) over to the Haimones,



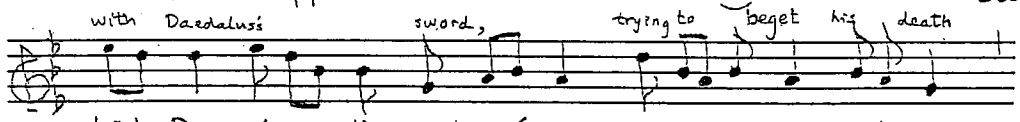
poleníāi kherì prostrapôm Pēleùs parédōken Haimónessi

• STR.8 Acastus's wife Hippolytas treacherous arts having dealt with:



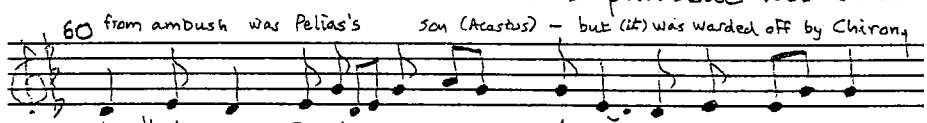
dámartos Hippolútās Akástou dolíais tékhnaisi khrēsámenos;

with Daedalus's sword, trying to beget his death



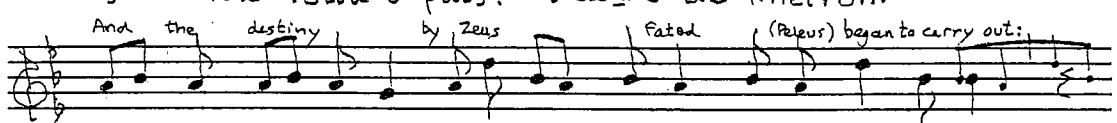
tāi Daidálou dè makhaírāi phúteué woi thánaton

60 from ambush was Pelias's son (Acastus) — but (it) was warded off by Chiron,



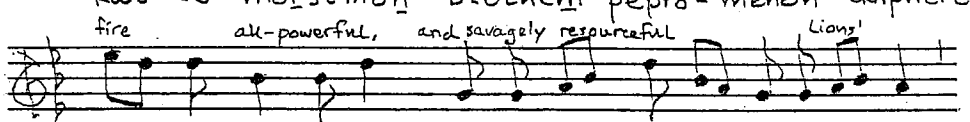
eg Lókhou Pelíā-o paîs: álalke dè Kheírōn.

And the destiny by Zeus fated (Peleus) began to carry out:



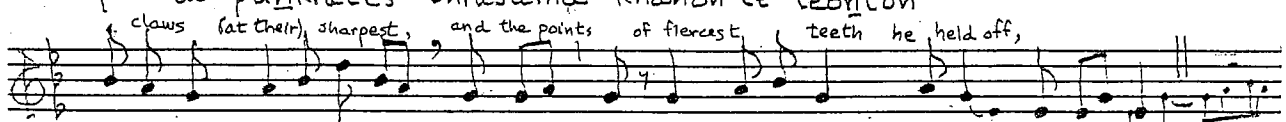
kaì tò mórsimon Dióthem peprō-ménon ékhpheren:

fire all-powerful, and savagely resourceful lions'



pûr dè paṅkratès thrasumā-khánōn te leóntōn

claws (at their) sharpest, and the points of fiercest teeth he held off,



ónukhas oxutátous ákmān te dei-notátōn skhásais odóntōn

N.4-4 (ted)

•STR.9 and he married one of the high-throned Nereids (i.e., Thetis). He saw the fine-circled sessions

égāmen hupsithrónōm mían Nēreïdōn. eîden d' eúkuk-lon hédrān,

where the sky's rulers, and the sea's, sitting beside (him),

tās ouranoû basilē-es pón-tou t' ephezómenoi

gifts of power revealed (that would be) native to him.

dôra kaì krátos exéphā-nan engenès autôi.

From Cadiz what (lies) to the west is not to be crossed: turn away

Gādeíron tò pròs zóphon ou perātón: apótrepe

again to Europe's mainland the gear of (your) ship,

aûtis Eurōpām pot' khérson éntea naós;

as (it is) impossible the tale of Aeacus's sons, all of it, for me to go through.

ápora gàr lógon Aiákou paídōn tòn hápantá moi dieltheîn.

to Str.10 or Instrumental strophe

•STR.10 To the Theandridae, of the limb-strengthening games as a herald, ready, I came,

Theandrídaisi d' aexiguíōn aéthlōn kā-rux hetoîmos ébān

at Olympia and the Isthmus and Nemea, as I contracted;

Ou-lum-píāi te kaì Isthmoî Neméāi te sunthémenos,

there, the contest having undergone, homeward (without) glorious fruits (of victory)

éntha peîran ékhontes oíkade klutokárpōn

they did not go, (nor) without garlands — your family there, we hear,

ou néont' ánen stephánōn, pátrān hín' akoú-omen,

Timasarchus, to victory songs

Timás-arkhe, teān epini-kíoisin aoidaîs

is devoted. And if indeed for your mother's brother Callicles me you yet bid

N.4-5 própolon émmenai. ei dé toi mā-troi m' éti Kallikleî keleúeis

• STR.11 a column set up exceeding Parian marble in whiteness — gold, refined,

stā-lān thémem Parían líthou leukotérān; ho khrusòs hepsómenos

(its) brilliance shows to the full; and a song of noble

au-gàs édeixen hapāsās, húmnos dè tān agathôn

deeds (does) with kings equal in fortune make

ergmátōm basileûsin ī-sodaímona teú-khei

85 a man: that one (Callicles) who beside Acheron dwells, my

phôta: keînos amph' Akhéronti nai-etáōn emāi

voice let him find celebrating (the place)

glôssan heurétō keladê-tin, Orsotriaí-nā

where in the contest of deep-thundering Trident-Wielder (Poseidon) he was glorified with Corinthian parsley.

hin' en agō-ni baruktúpou thá-lē-se Korinthíois selí-nois:

• STR.12 Him Euphanes, gladly — your aged grandfather — sang upon a time, my boy.

tòn Eu-phánēs ethélōn gerai-òs propátōr sòs á-ei-sem pote, paî.

91 To different generations (belong) different men; and of what he himself has encountered

ál-loisi d' há-likes ál-loi: tà d' autòs antitúkhēi,

each man expects best to tell.

él-petaí tis hékastos exokhó-tata phásthai.

For example, one who would praise Melesias (T.'s trainer) the attack would vary,

hoî-on ainéōn ke Melēsíān érida stréphoi,

words weaving, unwrestle-able in argument to pull —

rhē-mata p'lékōn, apálaistos en lógōi hél-kein,

95 with kindly feelings for the noble but harsh towards adversaries as a waiting competitor.

TO INSTR. STROPHE

malakà mèm phronéōn esloîs, trākhùs dè palinkótois éphedros.

CLOSE

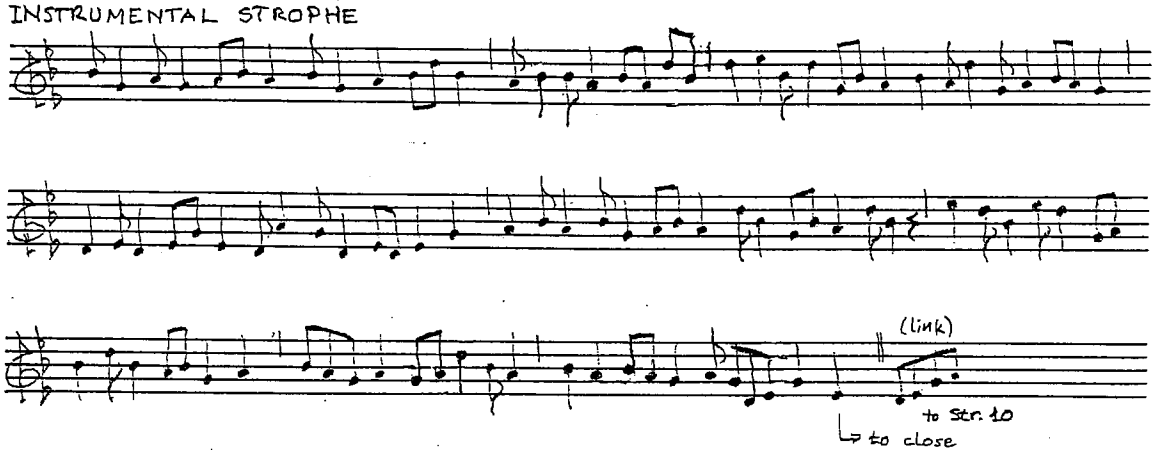
éphedros. (instr.)

N.4-6

(12-15 min. or Longer)

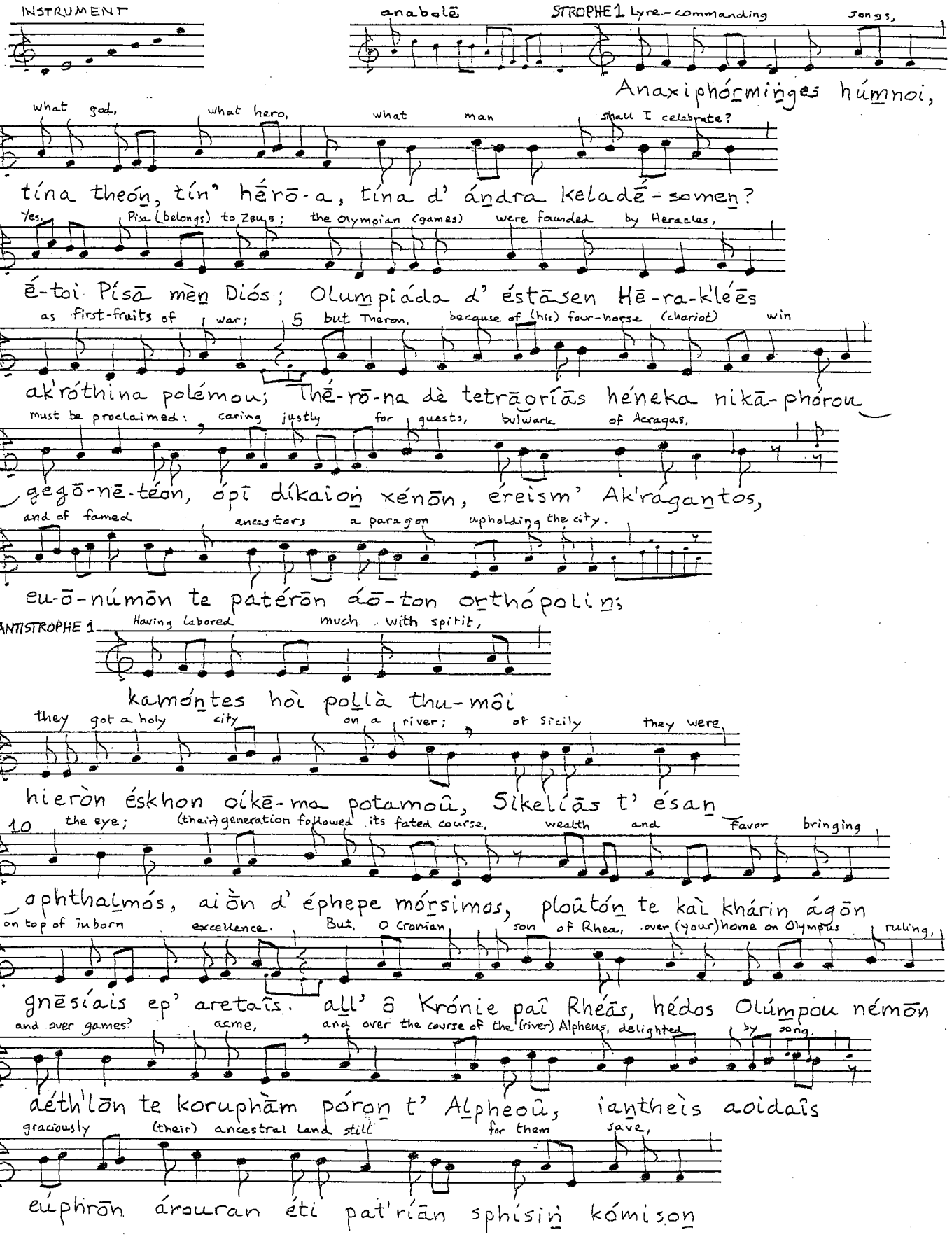
(no text)

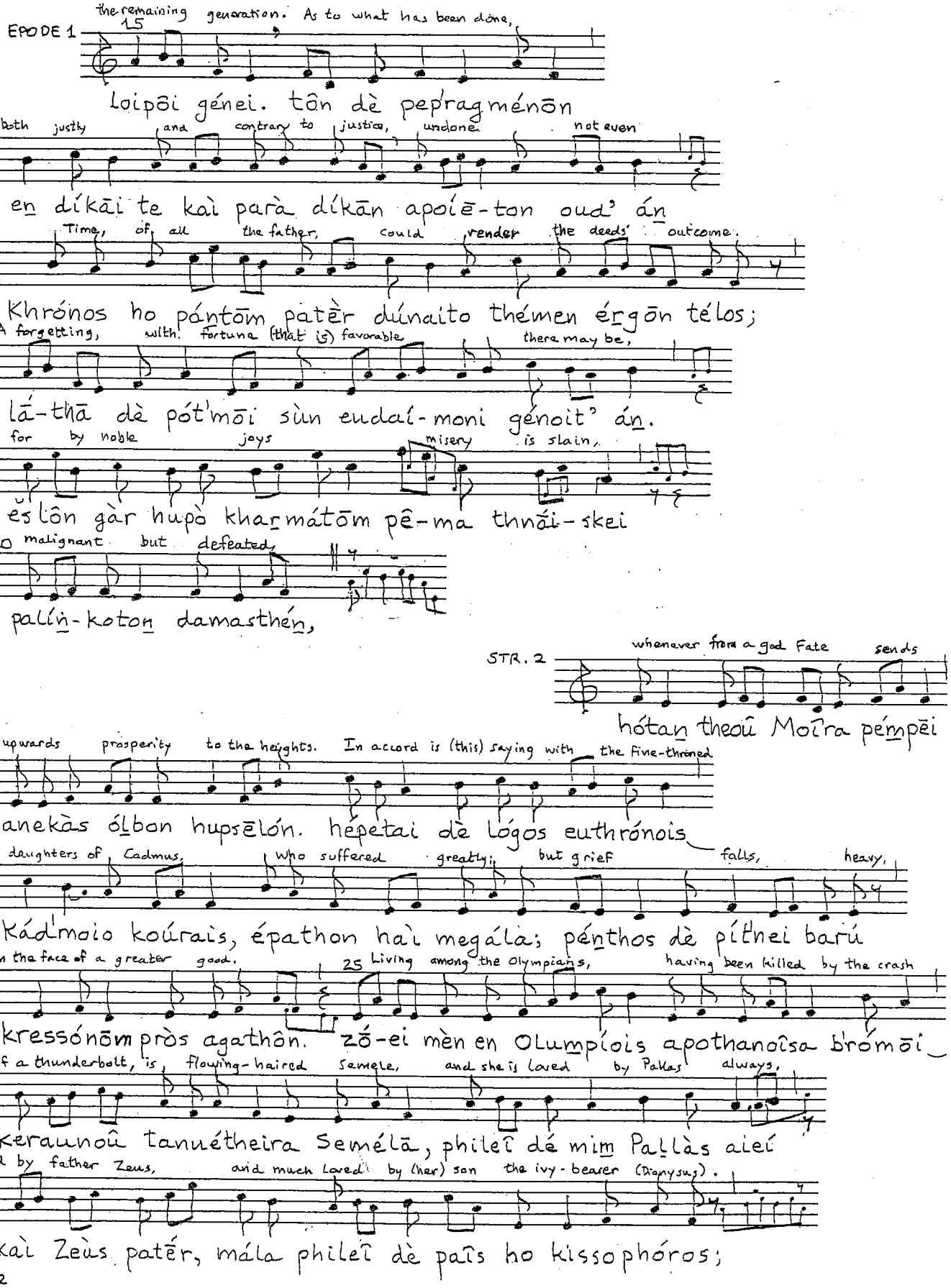
NEMEAN 4:
INSTRUMENTAL STROPHE



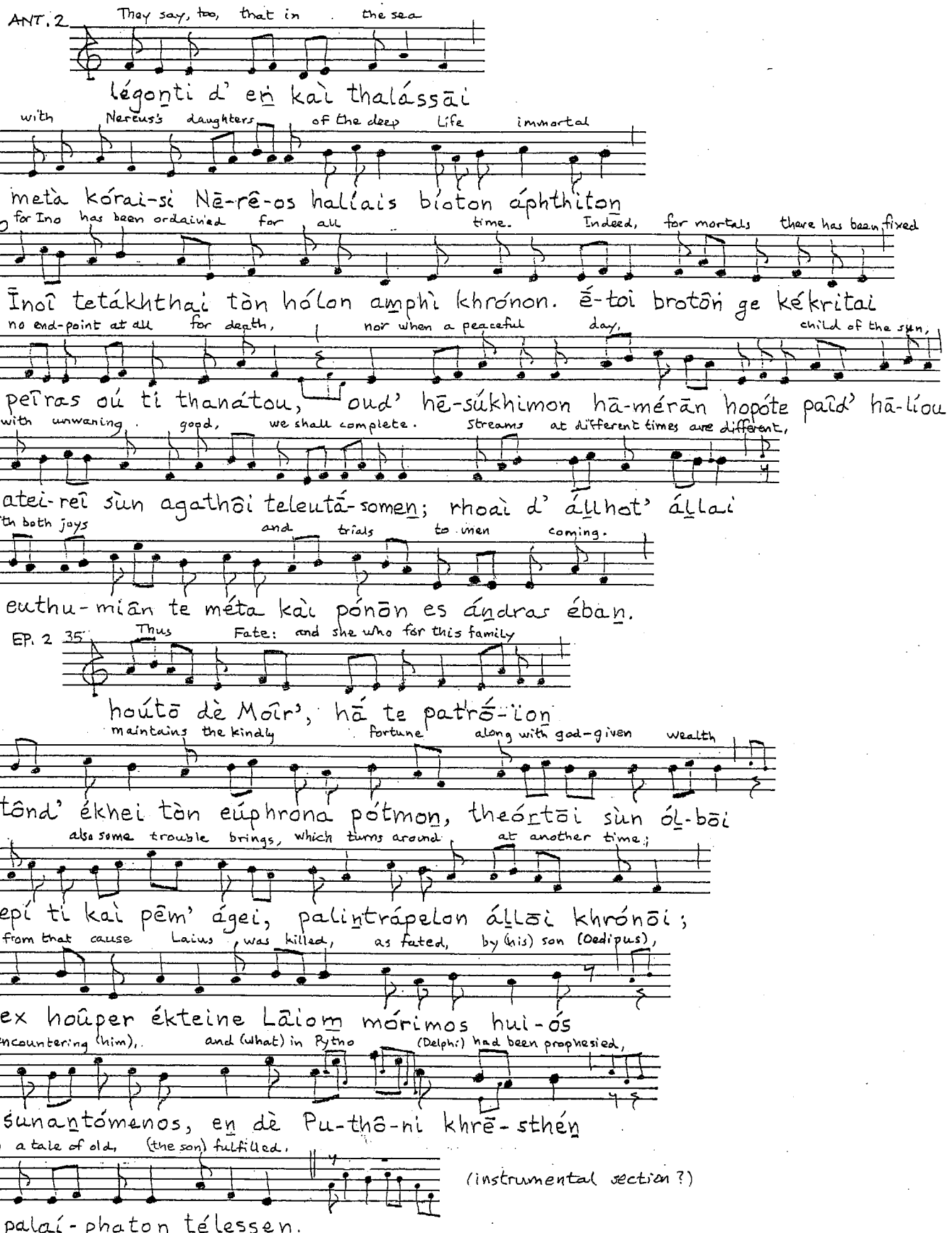
OLYMPIAN 2
For Theron of Acragas, Chariot Race (476 BCE)

meter: paeonic
mode: Dorian



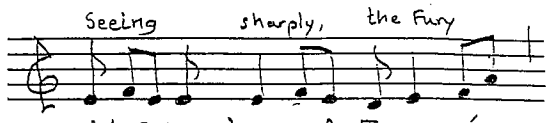

EPODE 1
the remaining generation. As to what has been done,
15
loipōi génei. tôn dè pepragménōn
both justly and contrary to justice, undone not even
en díkāi te kaì parà díkān apoíē-ton oud' án
Time, of all the father, could render the deeds' outcome.
Khrónos ho pántōm patèr dúnaito thémen érgōn télos;
A forgetting, with fortuna (that is) favorable there may be,
lā-thā dè pót'mōi sùn eudaí-moni génoit' án.
for by noble joys misery is slain,
es lôn gàr hupò kharmátōm pê-ma thnāi-skei
20 malignant but defeated,
palín-koton damasthén,
STR. 2
whenever from a god Fate sends
hótan theoû Moîra pémpēi
upwards prosperity to the heights. In accord is (this) saying with the Five-throned
anekàs ólbon hupsēlón. hépetai dè lógos euthrónois
daughters of Cadmus, who suffered greatly; but grief falls, heavy,
Kádmoio koúrais, épathon hà megála; pénthos dè píthei barú
in the face of a greater good. 25 Living among the Olympians, having been killed by the crash
kressónōm pròs agathôn. zō-ei mèn en Olumpíois apothanoîsa brómōi
of a thunderbolt, is flowing-haired Semele, and she is loved by Pallas always,
keraunoû tanuétheira Seméla, phileî dé min Pallàs aieí
and by father Zeus, and much loved by (her) son the ivy-bearer (Dionysus).
kaì Zeùs patēr, mála phileî dè paîs ho kissophóros;

a2-2

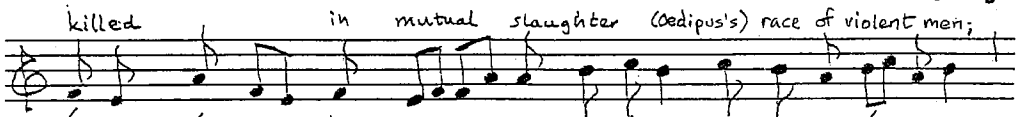

ANT. 2
They say, too, that in the sea
légonti d' en kài thalássāi
with Nereus's daughters of the deep Life immortal
metà kórai-si Nē-rê-os haliais bioton áphthiton
30 for Ino has been ordained for all time. Indeed, for mortals there has been fixed
Īnoî tetákhthai tòn hólon amphì khrónon. ê-toi brotôn ge kékritai
no end-point at all for death, nor when a peaceful day, child of the sun,
peîras oú ti thanátou, oud' hē-súkhimon hā-mérān hopóte paîd' hā-líou
with unwaning good, we shall complete. Streams at different times are different,
atei-reî sùn agathôi teleutā-somen; rhoai d' állhat' állai
with both joys and trials to men coming.
euthu-miān te méta kài pónōn es ándras éban.
EP. 2 35
Thus Fate: and she who for this family
houtō dè Moîr', hā te patrō-ïon
maintains the kindly fortune along with god-given wealth
tônd' ékhei tòn eúphrona pótmon, theórtōi sùn ól-bōi
also some trouble brings, which turns around at another time;
epí ti kai pēm' ágei, palintrápelon állōi khrónōi;
from that cause Laius was killed, as fated, by (his) son (Oedipus),
ex hoûper ékteine Lāiom mórimos hui-ós
encountering (him), and (what) in Pytho (Delphi) had been prophesied,
sunantómenos, en dè Pu-thō-ni khrē-sthén
40 a tale of old, (the son) fulfilled.
palaí-phaton télessen.
(instrumental section?)

0.2-3

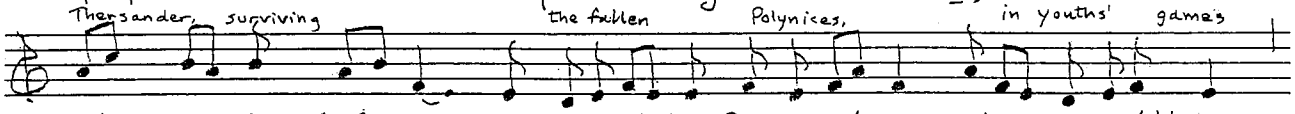
STR. 3



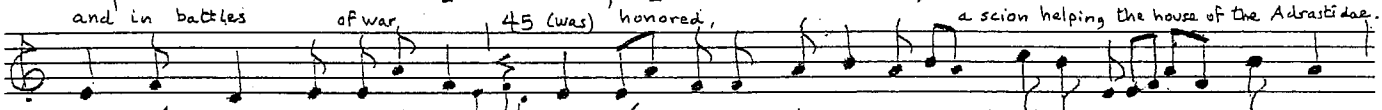
idoîsa d' oxeî' Erī-nûs



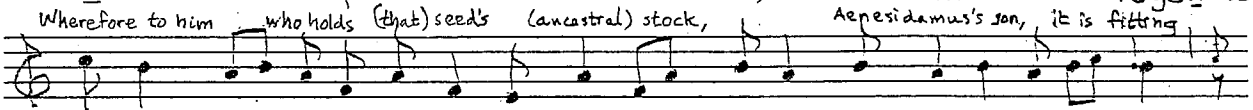
épephné woi sùn a_llā-lophoníāi génos arē-ïo_n;



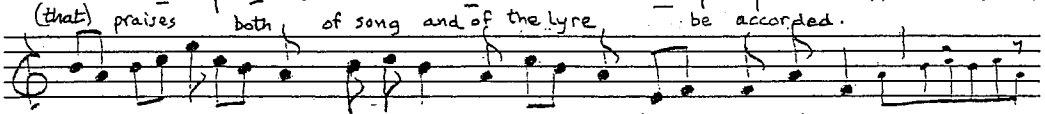
Leíphthē dè Thér_sandros eripén_ti Poluneíkei, néois en aéthlois



em mákhaïs te polémou ti-mō-menos, Adrastidân thálos arōgò_n dómois;

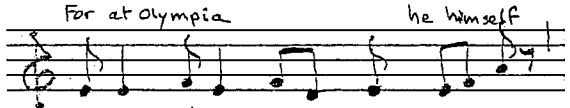


hóthe_n spér_matos ékhon_ta rhízam_ prépei tòn Ainē-sidā-mou

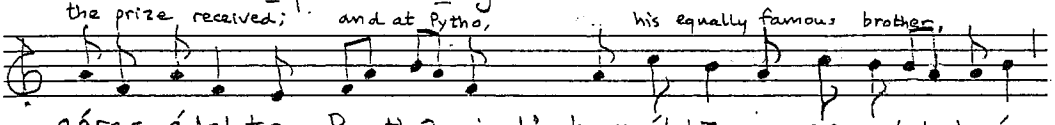


e_ṅkō-miōn te meléōn lurân te tu_ṅkhanémen_.

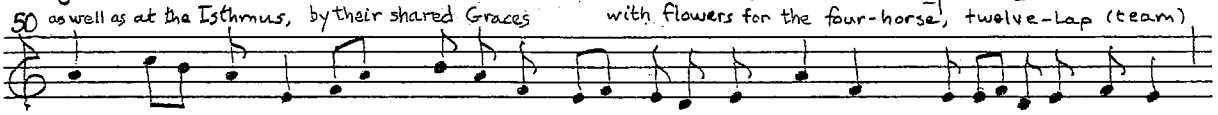
ANT. 3



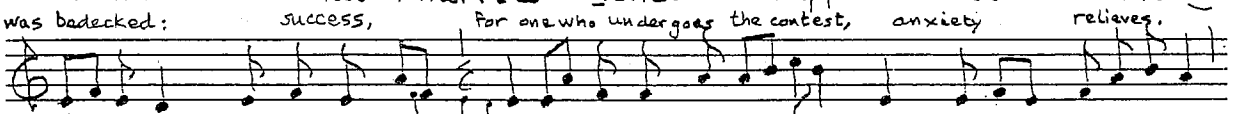
Olum_píāi mè_ṅ gàr autós



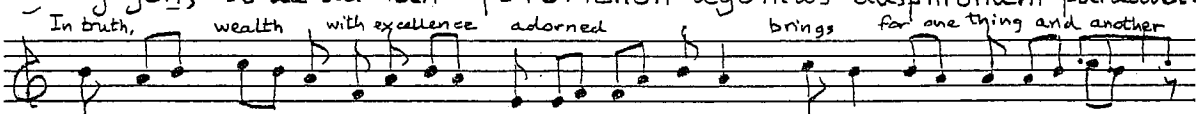
géras édekto, Pu-thô-ni d' homóklāron es adel_pheó_n



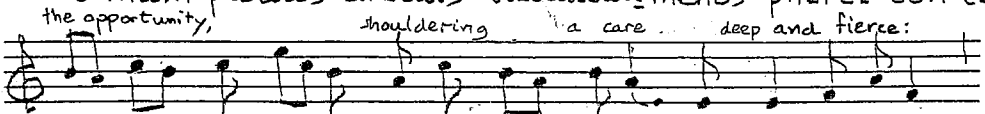
Isthmoî te koinaì Khárites d_nthea tethríppōn duōdekadrómōn



_á-gago_n; tò dè túkheîn peirōmenon agōníās dusphronâm paraúei.

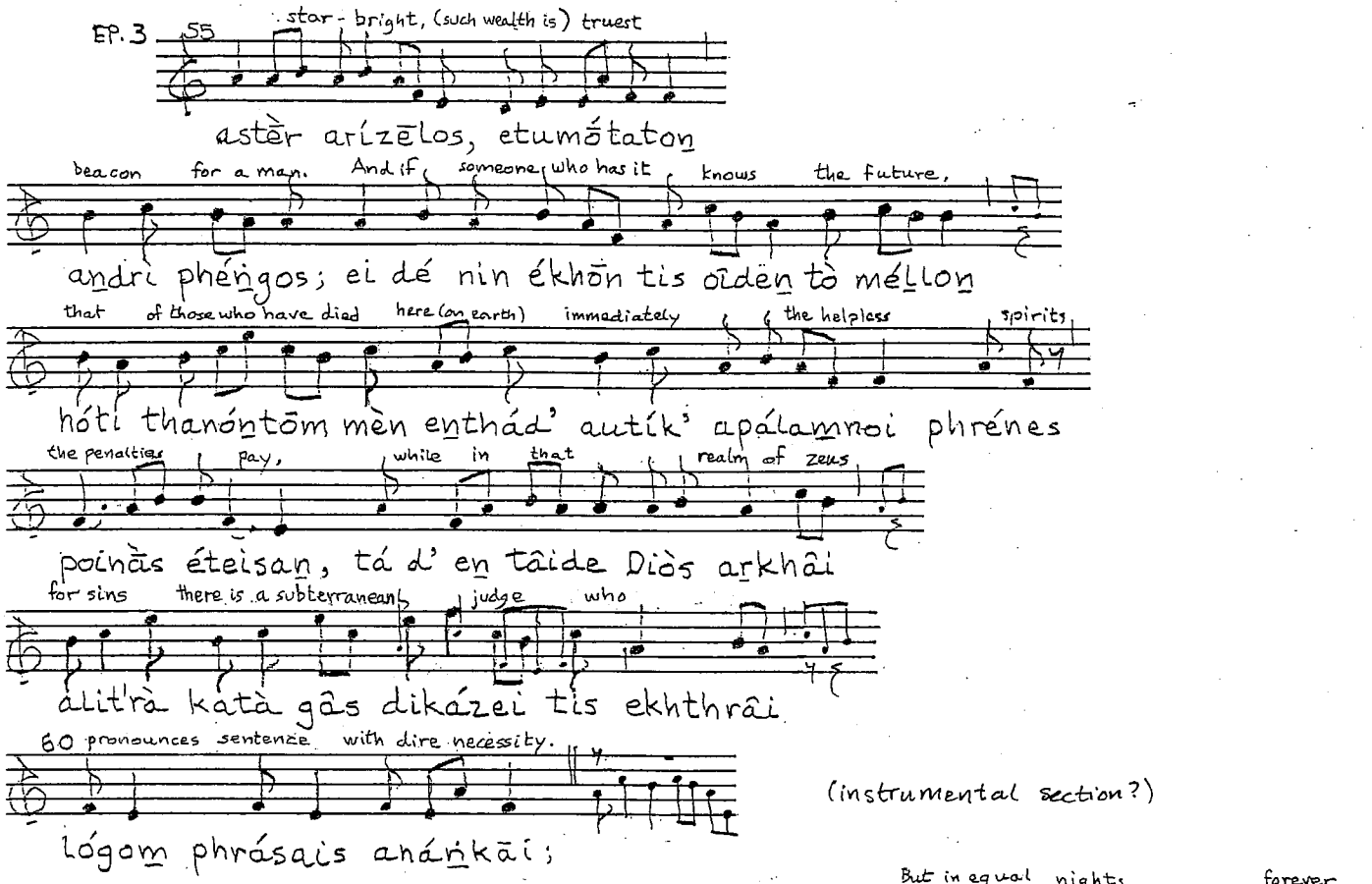


ho màm ploûtos aretaîs dedaidal_ménos phérei tō_n te kaì tō_n

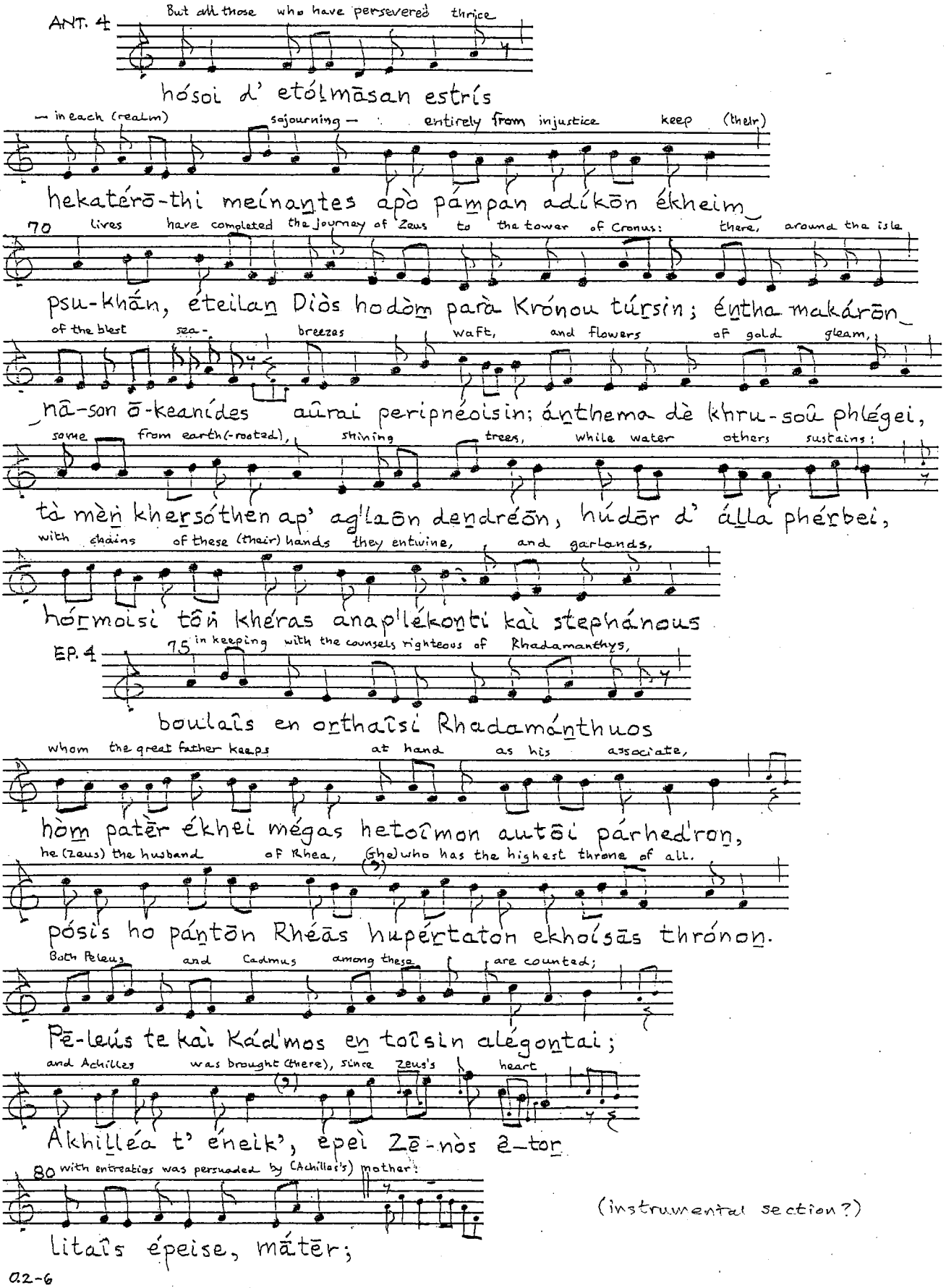


kairò_m batheîan hupékhōm mérim_nan ag'roteírān.

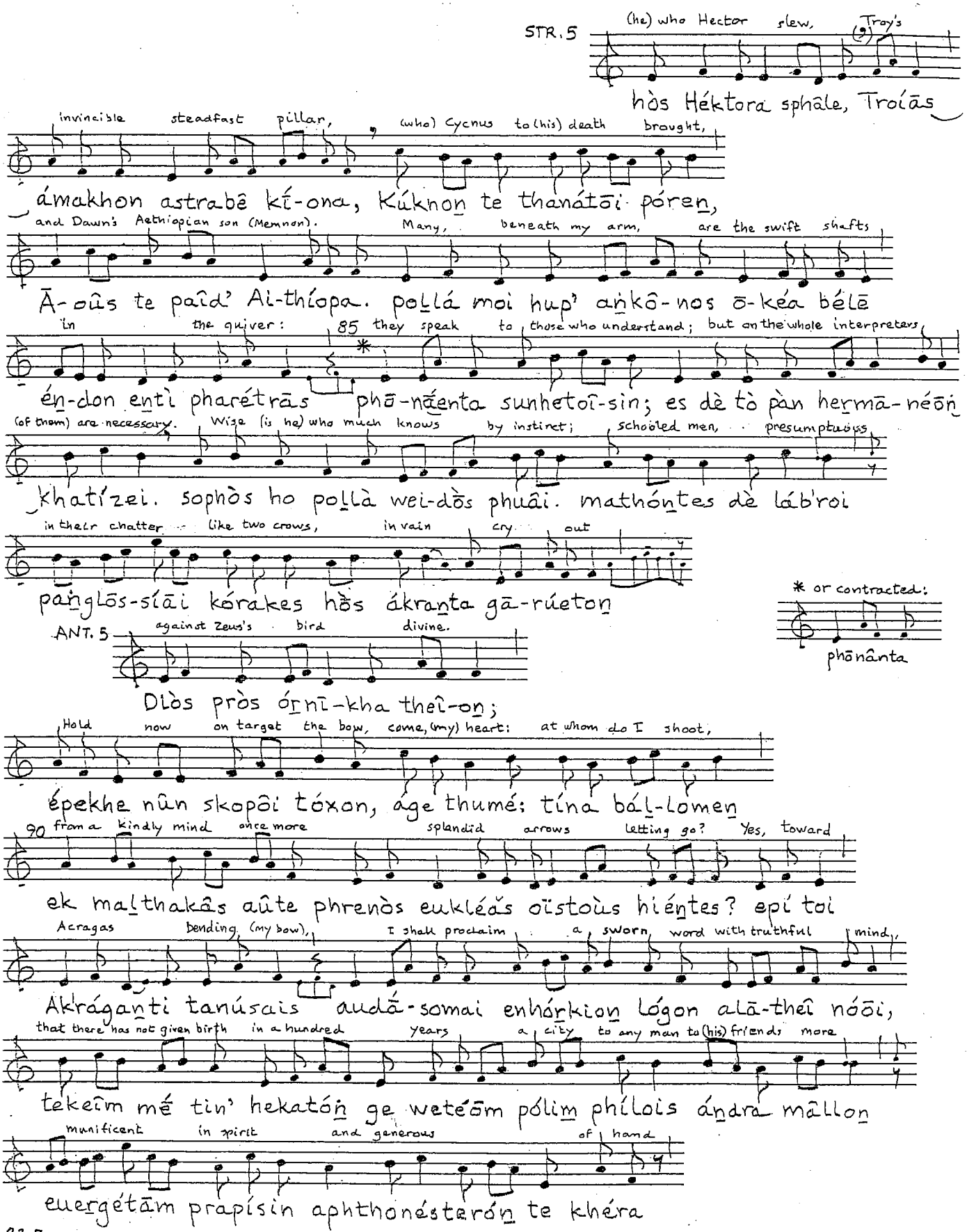
a2-4


EP. 3
55
star-bright, (such wealth is) truest
astèr arízēlos, etumótaton
beacon for a man. And if someone who has it knows the future,
andri phéṅgos; ei dé nin ékhōn tis oīden tò mélloṅ
that of those who have died here (on earth) immediately the helpless spirits
hóti thanóṅtōm mèn enthád' autík' apálamnoi phrénes
the penalties pay, while in that realm of Zeus
poinàs éteisaṅ, tá d' eṅ tâide Diòs arkhâi
for sins there is a subterranean judge who
alitrà katà gâs dikázei tis ekhthrâi
60 pronounces sentence with dire necessity.
lógom phrásais anáṅkāi;
(instrumental section?)
STR. 4
But in equal nights forever
wísais dè núktessin aieí,
and in equal days sun(light) having, freer from toil
wísais d' hā-mérais hā-lion ékhonṭes, aponésteroṅ
good men receive a life, no earth disturbing with the hand's work,
es'loì dékontai bíoton, ou khthóna tarássonṭes eṅ kheròs akmâi
nor sea's waters, 65 in pursuit of an empty livelihood. but rather among the honored
oudè póṅtion húdōr keinàm parà díaitan, allà parà mèṅ ti-míois
of the gods those who rejoiced in their good faith a tearless life
theôn hoítines ékhairon euhorkíais ádakrun némontai
lead, while not to be looked upon is what these others endure of suffering.
aiô-na, toì d' apros-hórā-ton okkhéonṭi pónoṅ.

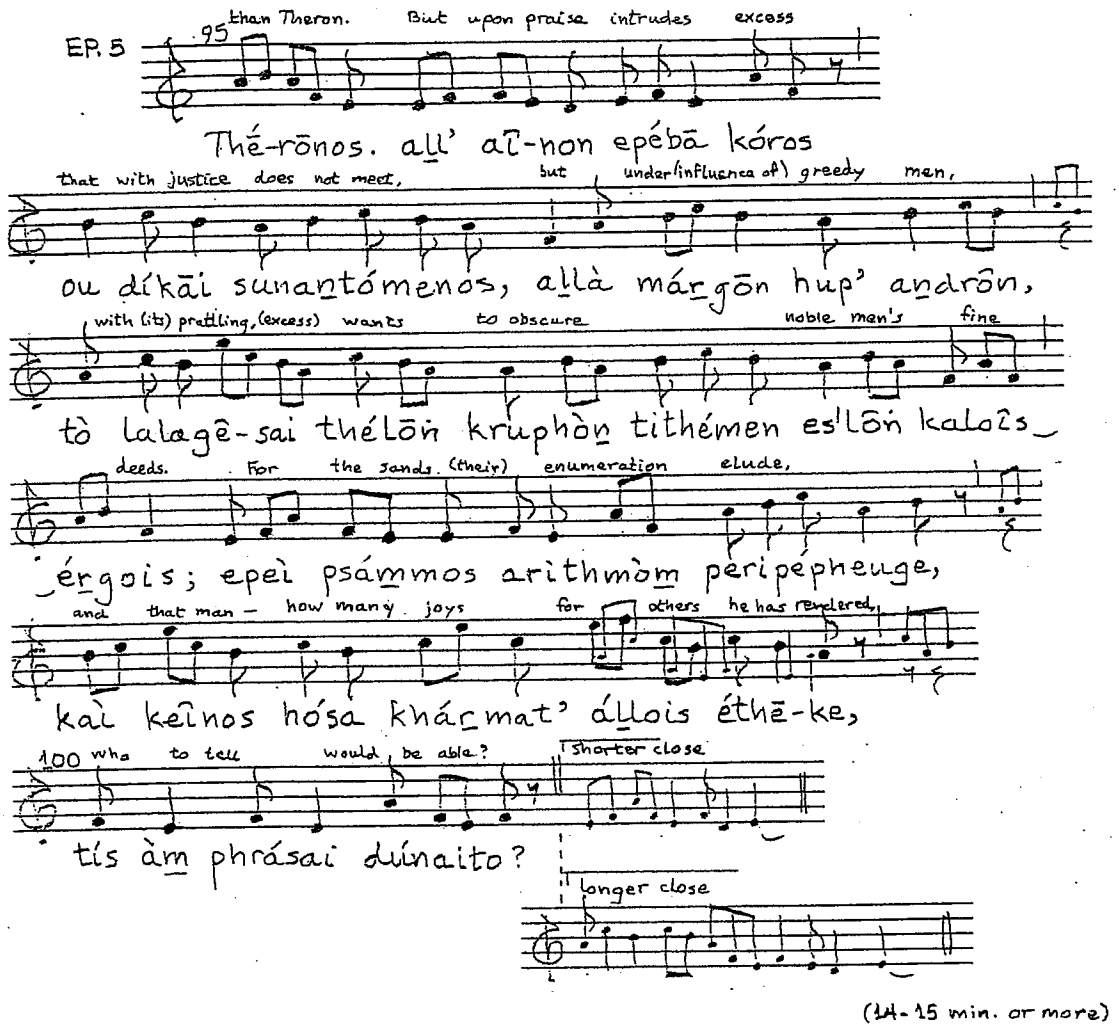
a2-5


ANT. 4
But all those who have persevered thrice
hósoi d' etólmāsan estrís
— in each (realm) sojourning — entirely from injustice keep (their)
hekatérō-thi meínantes apò pámpan adíkōn ékheim
70 lives have completed the journey of Zeus to the tower of Cronus: there, around the isle
psu-khán, éteilan Diòs hodòm parà Krónou túrsin; éntha makárōn
of the blest sea- breezes waft, and flowers of gold gleam,
nā-son ō-keanídes aûrai peripnéoisin; ánthema dè khru-soû phlégei,
some from earth(-rooted), shining trees, while water others sustains;
tà mèn khersóthen ap' aglaōn dendréōn, húdōr d' álla phérbei,
with chains of these (their) hands they entwine, and garlands,
hórmoisi tôn khéras anaplékonti kai stephánous
EP. 4
75 in keeping with the counsels righteous of Rhadamanthys,
boulaîs en orthaîsi Rhadamánthuos
whom the great father keeps at hand as his associate,
hòn patēr ékhei mégas hetoîmon autōi párhedron,
he (Zeus) the husband of Rhea, (She) who has the highest throne of all.
pósis ho pántōn Rhéās hupértaton ekhoísās thrónon.
Both Peleus and Cadmus among these are counted;
Pē-leús te kai Kádmos en toîsin alégontai;
and Achilles was brought (there), since Zeus's heart
Ákhilléa t' éneik', epeì Zē-nòs ē-tor
80 with entreaties was persuaded by (Achilles's) mother;
litaîs épeise, mátēr;
(instrumental section?)

a2-6


STR. 5
(he) who Hector slew, Troy's
hòs Héktora sphâle, Troíās
invincible steadfast pillar, (who) Cycnus to (his) death brought,
ámakhon astrabê kí-ona, Kúknon te thanátōi póren,
and Dawn's Aethiopian son (Memnon). Many, beneath my arm, are the swift shafts
Ā-oûs te paîd' Ai-thíopa. pollá moi hup' aṅkô-nos ō-kéa bélē
in the quiver: 85 they speak to those who understand; but on the whole interpreters
én-don entì pharétrāis phō-nāenta sunhetoî-sin; es dè tò pàn hermā-néōn
(of them) are necessary. Wise (is he) who much knows by instinct; schooled men, presumptuous
khatízei. sophòs ho pollà wei-dòs phuâi. mathóntes dè lábroi
in their chatter like two crows, in vain cry out
paṅglōs-síāi kórakes hòs ákranta gā-rúeton
* or contracted:
phōnânta
ANT. 5
against Zeus's bird divine.
Diòs pròs órnī-kha theî-on;
Hold now on target the bow, come, (my) heart: at whom do I shoot,
épekhe nûn skopôi tóxon, áge thumé; tína bál-lomen
90 from a kindly mind once more splendid arrows letting go? Yes, toward
ek malthakâs aûte phrenòs eukléās oïstoùs hiéntes? epí toi
Acragas bending (my bow), I shall proclaim a sworn word with truthful mind,
Akráganti tanúsais audā-somai enhórkion lógon alā-theî nóōi,
that there has not given birth in a hundred years a city to any man to (his) friends more
tekeîm mé tin' hekatón ge weteōm pólim phílois ándra mâllon
munificent in spirit and generous of hand
euergétām prapísin aphthonésterón te khéra

0.2-7



(11-15 min. or more)

• • •

As an Afterword to this Appendix, I should like to quote from Calvert Watkins's How to Kill a Dragon: Aspects of Indo-European Poetics (Oxford U. Pr., 1995), p.11:

> The Greek poet Pindar was a historical personage, who practiced his craft and earned his livelihood commemorating in song the accomplishments and virtues of other contemporary personages of a specific historical time and place, Greece and Sicily of the 5th century B.C. Pindar was a product of his own times. But it can only increase our awe before his genius to know that in some of his formulas and themes, some of his genres and subgenres, some of his training and his role in society, he was still part of a cultural tradition, verbally expressed, which reached back thousands of years. It can by the same token only enhance our wonder at Pindar's art to hear his elemental words of water, gold, and fire echoing and reverberating from Celtic ringforts to Indic ritual enclosures:
>
> ἄριστον μὲν ὕδωρ, ὁ δὲ χρυσὸς αἰθόμενον πῦρ
> ἅτε διαπρέπει νυκτὶ μεγάνωρ ἔξοχα πλούτου
>
> Best is water, but gold like burning fire
> by night shines out beyond all lordly wealth.

Appendix viii: Trial Reconstruction of the Parabasis (626-718) of Aristophanes's Acharnians

The following pages offer a sketch for a musical realization of a scene from Aristophanes's comedy, Acharnians. This realization has not been tested as a musico-dramatic whole, but only piecemeal. As they appear on the page, the scene's sections are out of order, mainly so as to allow side-by-side comparison of the choral ode (strophe) and antode (antistrophe; "answering" ode), and are to be read in the following sequence:[1]

A Speech ("Anapests") by the Coryphaeus ("Chorus-leader"): anapestic tetrameter catalectic (626-58), p.250-1
pnigos: an tetr (659-64), p.251

B Choral Ode: cretic-paeonic (665-75), p.252

C Epirrhema ("additional speech") (Coryphaeus): trochaic tetrameter catalectic (676-91), p.254

D Choral Antode (692-702), p.253

E Antepirrhema (Coryphaeus) (703-18), p.255

Acharnians, though lacking the fame of Clouds, Frogs or Lysistrata, shows as well as those Aristophanes's comedic and musical mastery.[2] Its hero, Dicaeopolis ("What's-Right-for-the-State") is an Athenian farmer and trader; since war is bad for business and life's pleasures (the war of Athens against Sparta and Boeotia was, at the time of the play, in about its sixth year), he contrives to negotiate a personal truce, which, as Jeffrey Henderson writes in the excellent, brief introduction to his edition and translation of the play (LCL, 1998), "enables him to return to his farm, to trade freely with enemy states, and to enjoy the wholesome pleasures of good food, drink, and sex, which the war has disrupted for everyone else" (p.49). (Food and cooking are a particularly amusing feature of the play.)

The Parabasis has nothing to do with this, however: it is a "stock" comic scene in which the chorus comes forward (parabasis is both "a stepping forward" and "a digression") and addresses the audience on behalf of the composer's virtues. Here it speaks as the composer himself, "stress[ing] the themes of free-

dom of speech and the value of listening even to unpopular views by boasting of his own courage in telling the Athenians unpleasant but important truths: for this he deserves not abuse but rich rewards," in Henderson's words (p.50). In Acharnians, before the beginning of the parabasis, "Dicaeopolis has already got his Peace, and the subsequent scenes only show its farcical consequences."[3] (At the end of this Appendix will be found the Greek text of the parabasis from the 1924 LCL edition of Acharnians, with English translation by Benjamin Bickley Rogers.)

Reconstruction and performance notes: Section A.[4] The task of the accompanying instrument (here an aulos or modern substitute) is to maintain a steady beat of anapests[5] from 626 through 658, using the model melodic figures I have (arbitrarily) created in lines ① - ⑧, or similar patterns; these figures are intended to represent what the accompanist might have improvised (they are only suggestions), and they continue until the pnigos ("strangler"), 659. At that point the instrumentalist continues to improvise similar figures, while pushing the actor's tempo with a gradual acceleration, leading to the Ode (p.252). In both this section and the later accompanied speech of C and E, an effect like music-hall parlando, where the actor employs a somewhat artificial speech-style with a kind of tempo rubato against the strict accompanimental rhythm, might be quite effective. (As notated, the instrument plays through the line-end catalexis and rest in the vocal part. The accompaniment sounds at the indicated pitch, the Coryphaeus and Chorus an octave lower. Tempo indications are a general guide.)

Sections B and D. I add a brief lead-in from the pnigos to the Choral Ode, B; this section, along with the Antode D, is little different from strophic choruses we have seen in Chapter 9, above, except that its cretic meter is "regular" (above, p.151-2). The phrase-lengths, as I have treated them, are less so (the colometry is adopted from SA, p.136-7): 6 cretic metra (665-7) plus my instrumental metron (two or even more might be possible); then 8 (668-9) plus one (or more); 8 (670-1) plus one again; and, finally, an unexpected 9 (672-5), with an added single-metron transition to the Epirrhema, C, a transition I have omitted for dramatic reasons between Antode D and Antepirrhema E (702-3).

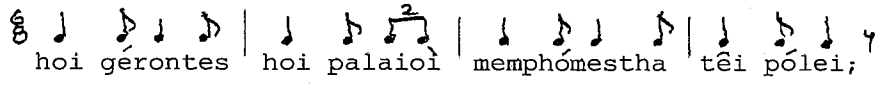
My tabulation of accentual responsion of Ode and Antode yielded a figure of

36%, or approximately "random" frequency (see Appendix vi). This may have confined my melody somewhat--though it is able to rise, in the Antode (695-7), for the heroes of Marathon (and consequently must do so in the Ode as well (670-1), for the herrings awaiting the grill and the "Thasian sauce"). A familiar melody may have been used for this chorus, disregarding to some extent the prosody.

Sections C and E. The meter of the Epirrhema (676-91) and its complementary Antepirrhema (703-18) is the familiar trochaic tetrameter catalectic (above, Chapter 7);[6] here an unavoidable question arises, however, about the performance of the rhythm.

In considering iambic and trochaic meters above (p.85-7, 90-1), a steady chronos was assumed which--following Horace's advice for iambs--gave a metron of either six or seven units. This seems impractical for our "delivery" here, since the instrumentalist would have to follow exactly the long and short anceps syllables; more significantly, the effect of the irregular rhythm, typical of tragic lyric, would, I think, seem stylistically inappropriate to comedy. The style I propose makes the trochaic metra all of a uniform length, like modern meters: six chronoi, with a regular two even beats per metron. The sing-song effect of such constant regularity would, in tragedy, seem unbearably tiresome. In comedy, however, its relentless repetitiousness is a positive advantage, with the 4 x 4 regularity of the tetrameter lines adding to the liveliness and amusement.

My experiments have led me to the provisional, practical conclusion that there were in Greek music two kinds of iambic and trochaic metra: the (tragic) irregular (6/8 and 7/8 "bars"), and the (comic) regular (6/8 only). As to the actual performance of 676-91/703-18: the accompanist plays, as notated (p.254, 255), long-short trochees (our 6/8 ♩ ♪ | ♩ ♪), but with no line-end rest, except at the end of 718. (Note that in these two sections each line of music contains two lines of text.) The actor recites in the same meter and tempo, but where there is a spondee in the second foot, he will fit the two even syllables (shortening them a bit) into the time of three shorts. In modern notation, for example (676):



(the second bar can also be written | ♩ ♪ ♪. |).[7] (See the suggestion for Section A, above, on the use of tempo rubato by the actor, which could apply here also.)

My schema assumes that the accompanist will use the same melodic-rhythmic figures for E as for C. As with Section A, the notated figures are only suggestions for improvisation; most here are barely sketched in. % indicates that the figures of a line or line-pair could be repeated one or more times. At the end of E, both voice and instrument have a rest; Dicaeopolis speaks immediately. The choice of modes here is, though arbitrary, intended to suit the ethos. The aulos will have no difficulty modulating from disjunct to conjunct scale.

NOTES (Appendix viii)

1. See the analysis in SA, p.13-8, and analysis-commentary in Aristophanes Acharnians, edited, with introduction and commentary, by S. Douglas Olson (Oxford U. Pr., 2002), p.235-6. On comedy, see K.J. Dover's "Comedy (Greek), Old," OCD_3, p.368-9. Sections here from Pickard-Cambridge (note 3, below), p.313.

2. Acharnae was "the largest Attic deme" (district); "[a]lthough famous as charcoal-burners in Aristophanes, the Acharnians lived primarily by growing corn [wheat] and cultivating vines and olives" (OCD_3, p.6); cf. Pindar, Second Nemean Ode, 16-7: "Acharnae is famous of old for brave men" (Akhárnai dè palaipháton/euánores).

3. A.W. Pickard-Cambridge, Dithyramb, Tragedy and Comedy (Oxford, 1927/R1997), p.295, from Appendix A, "On the Form of the Old Comedy," section on the Parabasis, which, like the entire book, is still invaluable.

4. The first two lines of the opening speech ("the anapests") are the obligatory kommation ("short section"), a stock introduction to the parabasis, with conventional exhortation to the chorus to "strip" (apodúntes) the outer clothing and "get on to the anapests" (toîs anapaístois epíōmen). I include a possible articulatory, instrumental "tag" for the end of 627, but this is optional.

5. Remembering the anapestic arsenal of rhythmic figures, ⏑⏑–, –⏑⏑, – –, and, on occasion, ⏑⏑⏑⏑ (p.151-3, above). On Aristophanes's anapestic tetrameters, see GM, p.94-5, SA, p.58-9.

6. On the comic trochaic tetrameter, see GM, p.40, 92-3; SA, p.35-7; $LMGD_2$, p.88-90.

7. The question of rhythmic interpretation in this case and a few others will

notes continue on p.256

ACHARNIANS 626-718

A

TRIAL--5

Coryphaeus ♩ ~ 120 M.M.

(possible tag)

kommation

626 ἄνηρ ΝΙΚΑΙ τοῖς λόγοις,' καὶ τὸν δῆμον μεταπείθεις ^
περὶ τῶν σπονδῶν, ἀλλ' ἀποδύντες τοῖς ἀναπαίστοις ἐπί- ωμεν. ^

(1) "Anapests"

628 ἐξ οὗ γε χοροῖσιν ἐφέστηκεν τρυγικοῖς ὁ διδάσκαλος ἡμῶν, ^
οὔ- πω παρέβη πρὸς τὸ θέατρον λέ- ξων ὡς δεξιός ἐστιν· ^

(2)

630 διαβαλλόμενος δ' ὑπὸ τῶν ἐχθρῶν ἐν Ἀθηναίοις ταχυβούλοις, ^
ὡς κωμωιδεῖ τὴμ πόλιν ἡμῶν καὶ τὸν δῆμον καθυβρίζει, ^

(3)

632 ἀποκρῖνασθαι δεῖται νῦνὶ πρὸς Ἀθηναίους μεταβούλους. ^
φησὶν δ' εἶναι πολλῶν ἀγαθῶν ἄ- ξιος ὑμῖν ὁ ποιη- τής, ^

(4)

634 παύσας ὑμᾶς ξενικοῖσι λόγοις μὴ λίᾳ ἐξαπατᾶσθαι, ^
635 μηθ' ἡδέσθαι θω- πευο- μένους, μήτ' εἶναι χαυνοπολίτας. ^

(5)

636 πρότερον δ' ὑμᾶς ἀπὸ τῶμ πόλεων οἱ πρέσβεις ἐξαπατῶντες ^

(6)

637 πρῶτομ μὲν Ἰοστεφάνους ἐκάλουν· κἄπειδὴ τοῦτό τις εἶποι, ^
εὐθὺς δι- ὰ τοὺς στεφάνους ἐπ' ἄκρων τῶμ πτηνῶν ἐκά- θησθε. ^

(7)

639 εἰ δέ τις ὑμᾶς ὑποθωπεύσας "λιπαρᾶς" καλέσειεν Ἀθήνας, ^
ηὗ- ρε- το πᾶν ἂν διὰ τὰς λιπαρᾶς, ἀφύων τι- μὴμ περιᾱψᾶς. ^

(8)

641 ταῦτα ποιήσᾶς πολλῶν ἀγαθῶν αἴτιος ὑμῖν γεγένηται. ^
καὶ τοὺς δήμους ἐν ταῖς πόλεσιν δείξᾶς ὡς δημοκρατοῦνται. ^

643 τολγάρτοι νῦν ἐκ* τῶμ πόλεων τὸμ φόρον ὑμῖν ἀπάγοντες ^
ἥξουσιν ἰδεῖν ἐπι- θυ- μοῦντες τὸμ που- η- τὴν τὸν ἄριστον, ^

*Henderson has οὐκ

645 ὅστις παρεκινδύνευε' εἰπεῖν ἐν Ἀθηναίοις τὰ δίκαια. ∧
οὕτω δ' αὐτοῦ περὶ τῆς τόλμης ἡ- δὴ πόρρω κλέος ἦκει, ∧

647 ὅτε καὶ βασιλεὺς Λακεδαιμονίων τὴν πρεσβείαν βασανίζων ∧
ἠ- ρώ- τη- σεν αὐτοὺς πότε- ροι τοῖς ναυ-σὶ κρατοῦσιν, ∧

649 εἶτα δὲ τοῦτον τὸν ποιητὴν ποτέρους εἶ-τοι κακὰ πολλά. ∧
τούτους γὰρ ἔφη τοὺς ἀνθρώπους πολὺ βελτίους γεγενῆσθαι ∧

651 καὶ τῶν πολέμων πολὺ νικήσειν τοῦτον σύμβουλον ἔχοντας. ∧
διὰ ταῦθ' ὑ- μᾶς Λακεδαιμονίους τὴν εἰ- ρή-νην προκαλοῦνται ∧

653 καὶ τὴν Αἴγιναν ἀπαιτοῦσιν· καὶ τῆς νήσου μὲν ἐκείνης ∧
οὐ φροντίζουσ', ἀλλ' ἵνα τοῦτον τὸν ποι- ητὴν ἀφέλωνται. ∧

655 ἀλλ ὑμεῖς τοι μή ποτ' ἀφῆσθ'· ὡς κωμῳδήσει τὰ δίκαια. ∧
φησὶν δ' ὑ- μᾶς πολλὰ δι δά- ξειν ἀγαθ', ὥστ' εὐδαί-μονας εἶναι, ∧

657 οὐ θωπεύων οὐδ' ὑποτείνων μισθοὺς οὐδ' ἐξαπατύλλων, ∧
οὐ- δὲ πανη- γυρῶν οὐ- δὲ καπήλων, ἀλλὰ τὰ βέλ-τιστα διδάσκων. ∧

πνῖγος

gradually accelerating - - -

659 πρὸς ταῦτα κλέων καὶ παλαιμάσθω κἀν πᾶν ἐπ' ἐμοὶ τεκταινέσθω.

661 τὸ γὰρ εὖ μετ' ἐμοῦ καὶ τὸ δίκαιον ξύμμαχον ἕξει, κοὐ μή ποθ' ἁλῶ

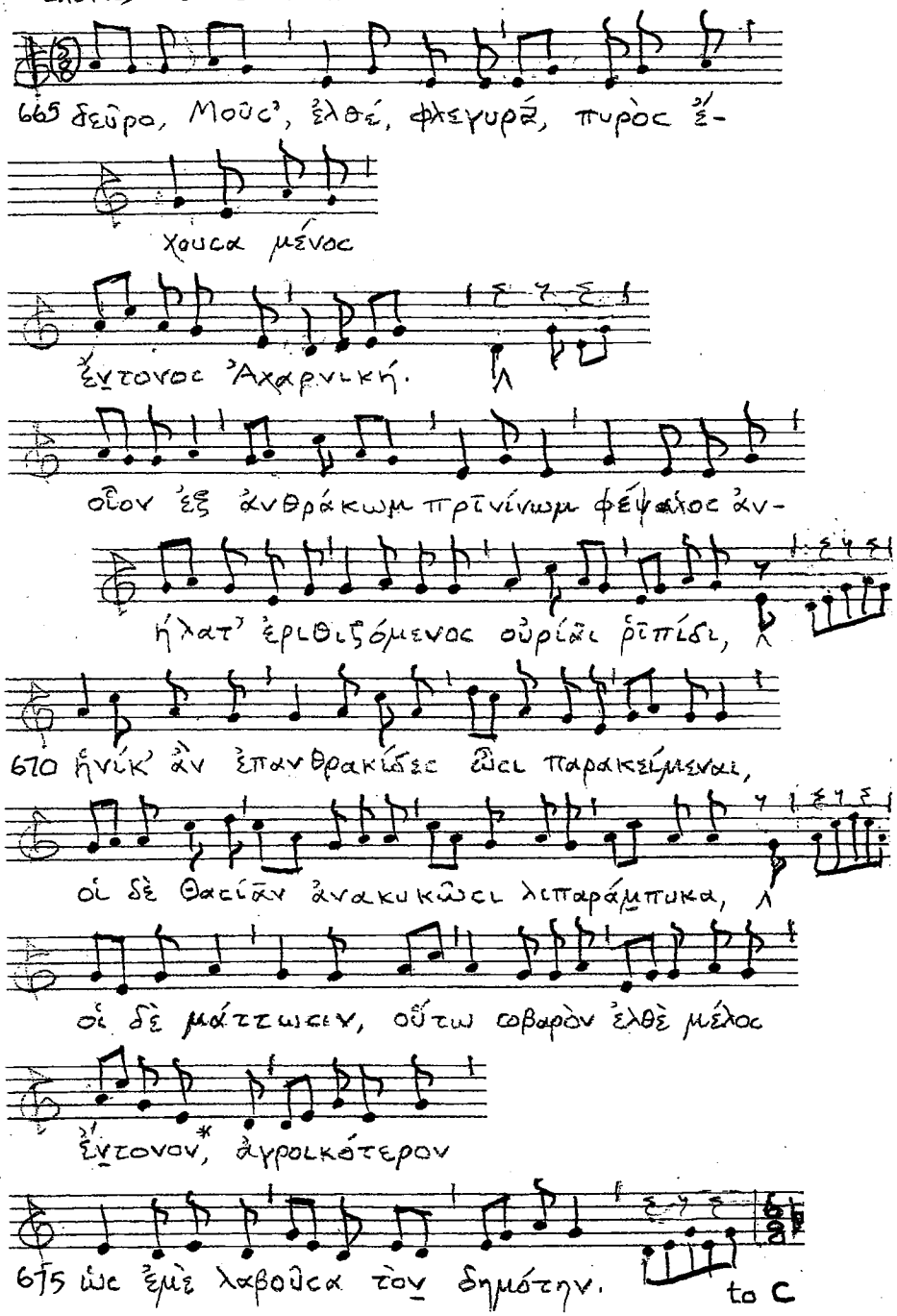
anabolē

663 περὶ τὴν πόλιν ὧν ὥσπερ ἐκεῖνος δειλὸς καὶ λἀκαταπύγων. ∧ to B

B

Ode

Chorus ♩ ~ 120 M.M.

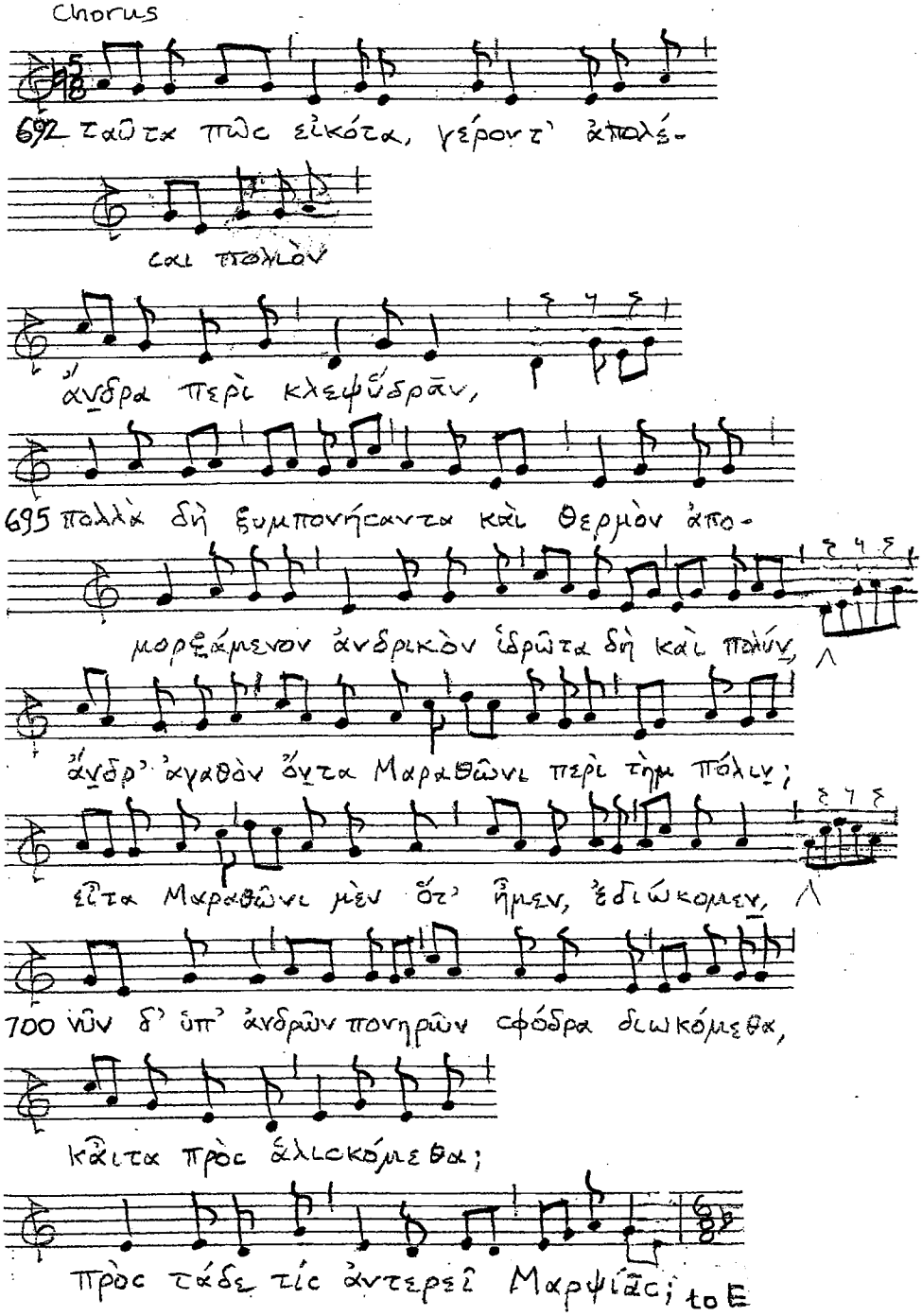


* Henderson has εὔτονον, "well-tuned"

D

Antode

Chorus



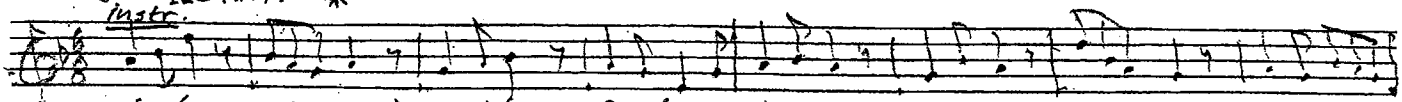
C

Epirrhema

Coryphaeus

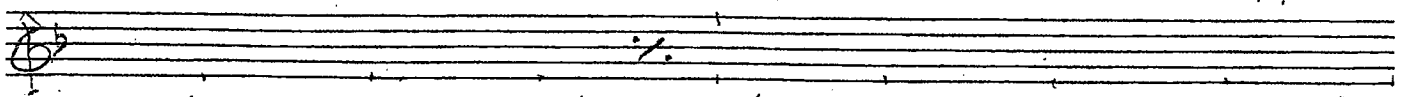
♩. ~120 M.M. *

instr.



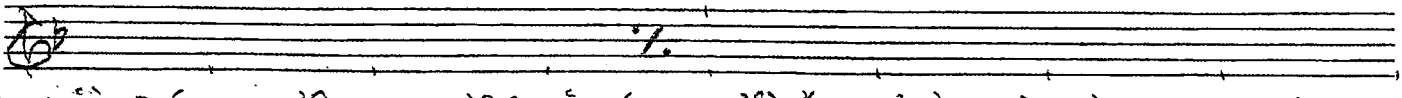
676-7 οἱ γέροντες οἱ παλαιοὶ μεμφόμεσθα τῇ πόλει· ∧ οὐ γὰρ ἀξί-ως ἐκείνων ὧν ἐναυμα-χήσαμεν ∧

~~ἕνεκ' γὰρ εἷπεν ἄνδρα κυφόν, ἡλίκον Θουκυδίδην, ἐξελέσθαι σφηκιάσιν ἐν Σκυθῶν ἐρημίᾳ,~~



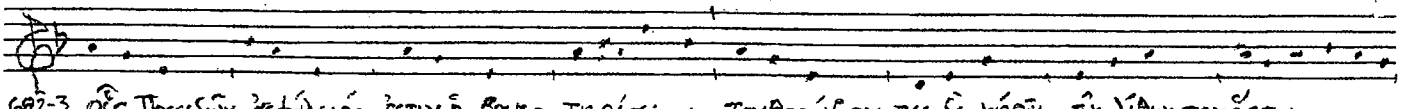
678-9 γηροβοσκοῦμεθ' ὑφ' ὑμῶν, ἀλλὰ δεινὰ πάσχομεν, ∧ οἵτινες γέ-ροντας ἄνδρας ἐμβολόντες εἰς γραῦς ∧

~~τοὺς δὲ τῶν Κηφισοφῶντος, εἰ λέγει ξυνετὰ γέρων ἢ νέος ἢ καὶ τερφθεὶς μικρὸν ἰδὼν~~



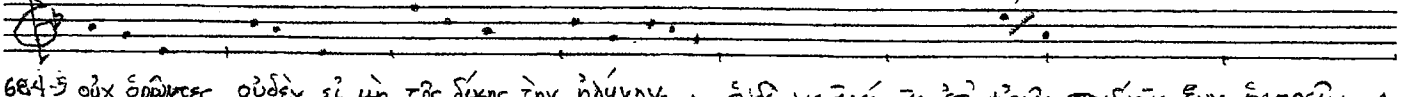
680-1 ὑπονεανί-σκων ἐᾶτε καταγελᾶσθαι ῥητόρων, ∧ αὐδὲν ὄντας, ἀλλὰ κωφοὺς καὶ παρεσπυληνένους, ∧

~~ἀνδρὶ πρεσβύτῃ ὑπ' ἀνδρὸς ταῦτα καὶ κεκωμένων· δὲ μὲν ἦν Δήμητερ, ἐκεῖνος ἢ νικῶν Θουκυδίδης,~~



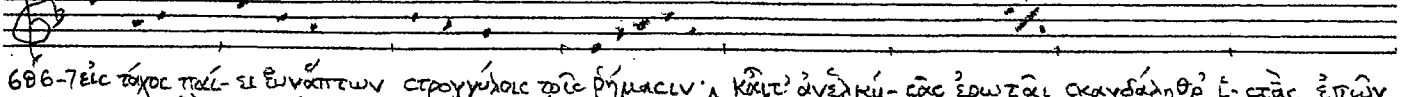
682-3 οἷς Ποσειδῶν ἀσφάλειός ἐστιν ἡ βακ-τηρία· ∧ τανθαρύζον-τες δὲ γήρᾳ τὼν λίθων πρασσόμεν, ∧

~~οὐδ' ἂν ὠζὸν Ἀρταχαίην ῥᾳδίως ἂν νεσσέτο, ἀλλὰ τετραπάλαι μίαν ἂν πρῶτον ἐνέ-θηκε δίκην,~~



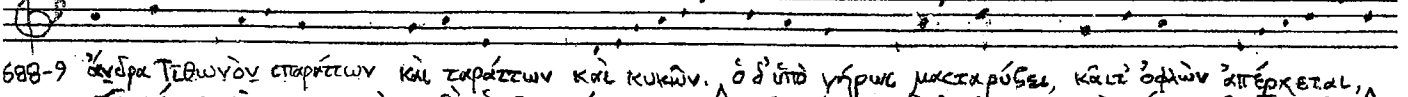
684-5 οὐχ ὁρῶντες οὐδὲν εἰ μὴ τῆς δίκης τὴν ἠλύγην. ∧ ὁ δὲ νεανί-ας ἐπ' αὐτῷ σπουδάσας ξυν-ήγορεῖν ∧

~~κατεφθὴ ἐς δᾷδ' κεκραγὼς τοξότας τρεσκέλεως, περι-εσπάσατο δ' ἀν αὐτὸν τοῦ πατρὸς τὸς ξυμμενεῖς.~~



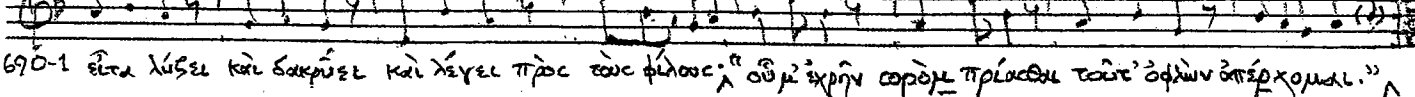
686-7 εἰς τόχος παί-σει ἐνάπτων στρογγύλοις τοῖς ῥήμασιν· ∧ κἄιτ' ἀνελκύ-σας ἐρωτᾷ σκανδάληθρ' ἑ-στὰς ἐπῶν, ∧

~~ἐπειδὴ τοὺς γέροντας οὐκ ἔσθ' ὑπνου τυχεῖν, ἵνα φάσκοθ' κυρίε εἶναι τὰς γνάθους, ὅπως ἂν ἡ~~

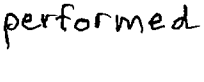


688-9 ἄνδρα Τεθωνὸν σπαράττων καὶ ταράττων καὶ κυκῶν. ∧ ὁ δ' ὑπὸ γήρως μακαρύζει, κἄιτ' ὀφλὼν ἀπέρχεται, ∧

~~ἐὰν γέροντες ἦμεν γεγραμμένοι καὶ νυνδὰ ὁ ξυν-ἡ γραφὰς, τοὺς νέους εἰ δ' ἐσμὲν ἀπόλλυσι καὶ δίκας χὠ κλεινόθεν.~~



690-1 εἶτα λύσει καὶ δακρύσει καὶ λέγει πρὸς τοὺς φίλους· " οὔμ' ἐχρῆν σορὸν πρίασθαι ταῦτ' ὀφλὼν ἀπέρχομαι. " ∧ to D

* ALL – ∪ – – metra to be performed as  (see p. 248 above).

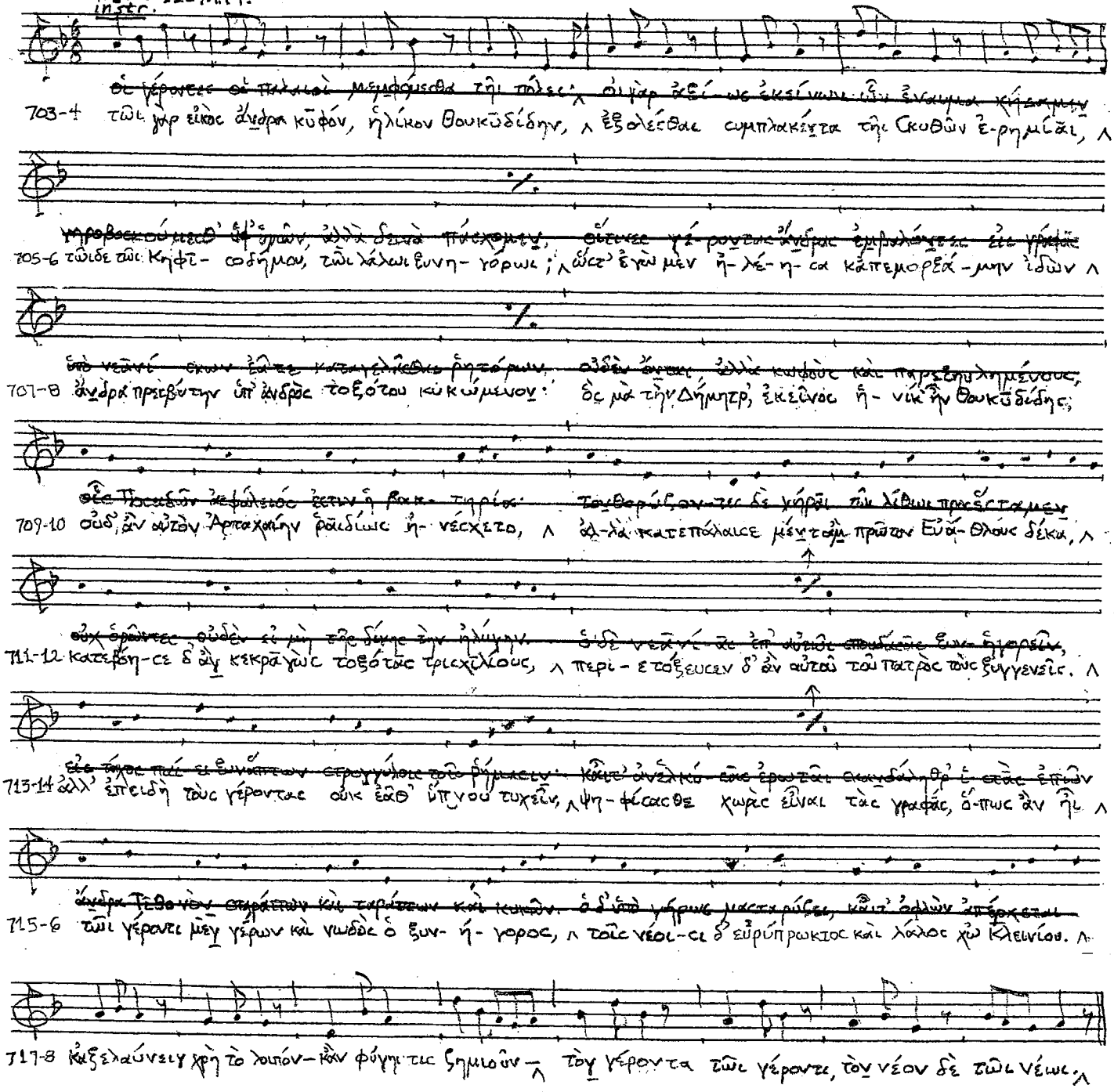
οἱ παλαιοὶ

E

Antepirrhema

Coryphaeus

inst. ♩. ~ 120 M.M.



719 ΔΙΚΑΙΟΠΟΛΙΣ. ὅροι μὲν ἀγορᾶς εἰσιν οἵδε τῆς ἐμῆς κτλ.

probably remain open, since we seem to lack, so far, definitive information from antiquity. For a general evaluation, see AGM, p.137-40, with references to our ancient evidence. The contribution of Aristoxenus to an understanding of these practical matters comes from a later time and seems to me to be too incomplete to be useful. One may consult, however, Lionel Pearson's edition, with extensive introduction and commentary, of his Elementa Rhythmica, including "Additional evidence for Aristoxenian rhythmic theory" (Clarendon Pr., 1990), especially p.36-44 and 77-86. Pearson's rhythmic interpretations in the commentary, p.77-86, and introduction, p.xxxvii and xlii-xlvi, should in my opinion be treated with considerable skepticism. (Cf. also above, p.97, note 7.)

• • •

My Greek text, above, follows that of Henderson (LCL, 1998), with my usual orthographic modifications to reflect pronunciation (above, Chapter 2).

• • •

Perhaps some of the ideas explored in this experimental realization may be found musically and dramatically useful, or may suggest further musical explorations of Aristophanes, who remains for me the most brilliant musician of the ancient Greek dramatic poets.

Aristophanes Acharnians: Parabasis, 626-718
Translated by B.B. Rogers, Loeb Classical Library (Harvard U. Pr.), 1924.

ΧΟ. ἀνὴρ νικᾷ τοῖσι λόγοισιν, καὶ τὸν δῆμον μεταπείθει
περὶ τῶν σπονδῶν. ἀλλ' ἀποδύντες τοῖς ἀναπαίστοις ἐπίωμεν.

Ἐξ οὗ γε χοροῖσιν ἐφέστηκεν τρυγικοῖς ὁ διδάσκαλος ἡμῶν,
οὔπω παρέβη πρὸς τὸ θέατρον λέξων ὡς δεξιός ἐστιν·
διαβαλλόμενος δ' ὑπὸ τῶν ἐχθρῶν ἐν Ἀθηναίοις ταχυβούλοις,
ὡς κωμῳδεῖ τὴν πόλιν ἡμῶν καὶ τὸν δῆμον καθυβρίζει,
ἀποκρίνεσθαι δεῖται νυνὶ πρὸς Ἀθηναίους μεταβούλους.
φησὶν δ' εἶναι πολλῶν ἀγαθῶν ἄξιος ὑμῖν ὁ ποιητής,
παύσας ὑμᾶς ξενικοῖσι λόγοις μὴ λίαν ἐξαπατᾶσθαι,
μηδ' ἥδεσθαι θωπευομένους μηδ' εἶναι χαυνοπολίτας.
πρότερον δ' ὑμᾶς ἀπὸ τῶν πόλεων οἱ πρέσβεις ἐξαπατῶντες
πρῶτον μὲν ἰοστεφάνους ἐκάλουν· κἀπειδὴ τοῦτό τίς εἶποι,
εὐθὺς διὰ τοὺς στεφάνους ἐπ' ἄκρων τῶν πυγιδίων ἐκάθησθε.
εἰ δέ τις ὑμᾶς ὑποθωπεύσας λιπαρὰς καλέσειεν Ἀθήνας,
εὕρετο πᾶν ἂν διὰ τὰς λιπαράς, ἀφύων τιμὴν περιάψας.
ταῦτα ποιήσας πολλῶν ἀγαθῶν αἴτιος ὑμῖν γεγένηται,
καὶ τοὺς δήμους ἐν ταῖς πόλεσιν δείξας, ὡς δημοκρατοῦνται.
τοιγάρτοι νῦν ἐκ τῶν πόλεων τὸν φόρον ὑμῖν ἀπάγοντες
ἥξουσιν, ἰδεῖν ἐπιθυμοῦντες τὸν ποιητὴν τὸν ἄριστον,
ὅστις παρεκινδύνευσ' εἰπεῖν ἐν Ἀθηναίοις τὰ δίκαια.
οὕτω δ' αὐτοῦ περὶ τῆς τόλμης ἤδη πόρρω κλέος ἦκει,
ὅτε καὶ βασιλεύς, Λακεδαιμονίων τὴν πρεσβείαν βασανίζων,
ἠρώτησεν πρῶτα μὲν αὐτοὺς πότεροι ταῖς ναυσὶ κρατοῦσιν·
εἶτα δὲ τοῦτον τὸν ποιητὴν ποτέρους εἴποι κακὰ πολλά·
τούτους γὰρ ἔφη τοὺς ἀνθρώπους πολὺ βελτίους γεγενῆσθαι
κἀν τῷ πολέμῳ πολὺ νικήσειν, τοῦτον ξύμβουλον ἔχοντας.

CHOR. The man has the best of the wordy debate,
and the hearts of the people is winning
To his plea for the truce. Now doff we our robes,
our own anapaestics beginning.

SINCE first to exhibit his plays he began,
our chorus-instructor has never
Come forth to confess in this public address
how tactful he is and how clever.
But now that he knows he is slandered by foes
before Athens so quick to assent,
Pretending he jeers our City and sneers
at the people with evil intent,
He is ready and fain his cause to maintain
before Athens so quick to repent.
Let honour and praise be the guerdon, he says,
of the poet whose satire has stayed you
From believing the orators' novel conceits
wherewith they cajoled and betrayed you;
Who bids you despise adulation and lies
nor be citizens Vacant and Vain.
For before, when an embassy came from the states
intriguing your favour to gain,
And called you the town of the VIOLET CROWN,
so grand and exalted ye grew,
That at once on your tiptails erect ye would sit,
those CROWNS were so pleasant to you.
And then, if they added the SHINY, they got
whatever they asked for their praises,
Though apter, I ween, for an oily sardine
than for you and your City the phrase is.
By this he's a true benefactor to you,
and by showing with humour dramatic
The way that our wise democratic allies
are ruled by our State democratic.

And therefore their people will come oversea,
their tribute to bring to the City,
Consumed with desire to behold and admire
the poet so fearless and witty,
Who dared in the presence of Athens to speak
the thing that is rightful and true.
And truly the fame of his prowess, by this,
has been bruited the universe through,
When the Sovereign of Persia, desiring to test
what the end of our warfare will be,
Inquired of the Spartan ambassadors, first,
which nation is queen of the sea,
And next, which the wonderful Poet has got,
as its stern and unsparing adviser;
For those who are lashed by his satire, he said,
must surely be better and wiser,
And they'll in the war be the stronger by far,
enjoying his counsel and skill.

διὰ ταῦθ' ὑμᾶς Λακεδαιμόνιοι τὴν εἰρήνην προ-
καλοῦνται,
καὶ τὴν Αἴγιναν ἀπαιτοῦσιν· καὶ τῆς νήσου μὲν ἐκείνης
οὐ φροντίζουσ', ἀλλ' ἵνα τοῦτον τὸν ποιητὴν ἀφ-
έλωνται.
ἀλλ' ὑμεῖς τοὶ μή ποτ' ἀφῆθ'· ὡς κωμῳδήσει τὰ δίκαια·
φησὶν δ' ὑμᾶς πολλὰ διδάξειν ἀγάθ', ὥστ' εὐδαί-
μονας εἶναι,
οὐ θωπεύων, οὔθ' ὑποτείνων μισθούς, οὐδ' ἐξαπ-
ατύλλων,
οὐδὲ πανουργῶν, οὐδὲ κατάρδων, ἀλλὰ τὰ βέλτιστα
διδάσκων.

πρὸς ταῦτα Κλέων καὶ παλαμάσθω
καὶ πᾶν ἐπ' ἐμοὶ τεκταινέσθω.
τὸ γὰρ εὖ μετ' ἐμοῦ καὶ τὸ δίκαιον
ξύμμαχον ἔσται, κοὐ μή ποθ' ἁλῶ
περὶ τὴν πόλιν ὢν ὥσπερ ἐκεῖνος
δειλὸς καὶ λακαταπύγων.

δεῦρο Μοῦσ' ἐλθὲ φλεγυρά, πυρὸς ἔχουσα μένος, ἔν-
τονος, Ἀχαρνική.
οἷον ἐξ ἀνθράκων πρινίνων φέψαλος ἀνήλατ', ἐρεθι-
ζόμενος οὐρίᾳ ῥιπίδι,
ἡνίκ' ἂν ἐπανθρακίδες ὦσι παρακείμεναι,
οἱ δὲ Θασίαν ἀνακυκῶσι λιπαράμπυκα,
οἱ δὲ βάπτωσιν, οὕτω σοβαρὸν ἐλθὲ μέλος εὔτονον
ἀγροικότονον,
ὡς ἐμὲ λαβοῦσα τὸν δημότην.

οἱ γέροντες οἱ παλαιοὶ μεμφόμεσθα τῇ πόλει.
οὐ γὰρ ἀξίως ἐκείνων ὧν ἐναυμαχήσαμεν
γηροβοσκούμεσθ' ὑφ' ὑμῶν, ἀλλὰ δεινὰ πάσχομεν.
οἵτινες γέροντας ἄνδρας ἐμβαλόντες ἐς γραφὰς
ὑπὸ νεανίσκων ἐᾶτε καταγελᾶσθαι ῥητόρων,
οὐδὲν ὄντας, ἀλλὰ κωφοὺς καὶ παρεξηυλημένους,
οἷς Ποσειδῶν ἀσφάλειός ἐστιν ἡ βακτηρία·
τονθορύζοντες δὲ γήρᾳ τῷ λίθῳ προσέσταμεν,
οὐχ ὁρῶντες οὐδὲν εἰ μὴ τῆς δίκης τὴν ἠλύγην.
ὁ δὲ νεανίας, ἑαυτῷ σπουδάσας ξυνηγορεῖν,
ἐς τάχος παίει ξυνάπτων στρογγύλοις τοῖς ῥήμασι·
κᾆτ' ἀνελκύσας ἐρωτᾷ, σκανδάληθρ' ἱστὰς ἐπῶν,
ἄνδρα Τιθωνὸν σπαράττων καὶ ταράττων καὶ κυκῶν.

And therefore the Spartans approach you to-day
with proffers of Peace and Goodwill,
Just asking indeed that Aegina ye cede;
and nought do they care for the isle,
But you of the Poet who serves you so well
they fain would despoil and beguile.
But be *you* on your guard nor surrender the bard;
for his Art shall be righteous and true.
Rare blessings and great will he work for the State,
rare happiness shower upon you;
Not fawning, or bribing, or striving to cheat
with an empty unprincipled jest;
Not seeking your favour to curry or nurse,
but teaching the things that are best.

And therefore I say to the people to-day,
Let Cleon the worst of his villainies try,
His anger I fear not, his threats I defy!
For Honour and Right beside me will fight,
And never shall I
In ought that relates to the city be found
Such a craven as he, such a profligate hound.

O Muse, fiery-flashing, with temper of flame,
energetic, Acharnian, come to my gaze,
Like the wild spark that leaps from the evergreen oak,
when its red-glowing charcoal is fanned to a blaze,
And the small fish are lying all in order for the frying;
And some are mixing Thasian, richly dight, shiny-bright,
And some dip the small fish therein;
Come, fiery-flashing Maid, to thy fellow-burgher's aid,
With exactly such a song, so glowing and so strong,
To our old rustic melodies akin.

We the veterans blame the City.
Is it meet and right that we,
Who of old, in manhood's vigour,
fought your battles on the sea,
Should in age be left untended,
yea exposed to shame and ill?
Is it right to let the youngsters
air their pert forensic skill,
Grappling us with writs and warrants,
holding up our age to scorn?
We who now have lost our music,
feeble nothings, dull, forlorn,
We whose only "Safe Poseidon"
is the staff we lean upon,
There we stand, decayed and muttering,
hard beside the Court-house Stone,
Nought discerning all around us
save the darkness of our case.
Comes the youngster, who has compassed
for himself the accuser's place,
Slings his tight and nipping phrases,
tackling us with legal scraps,
Pulls us up and cross-examines,
setting little verbal traps,
Rends and rattles old Tithonus
till the man is dazed and blind;

ὁ δ' ὑπὸ γήρως μασταρύζει, κἄτ' ὀφλὼν ἀπέρχεται·
εἶτα λύζει καὶ δακρύει, καὶ λέγει πρὸς τοὺς φίλους,
οὗ μ' ἐχρῆν σορὸν πρίασθαι, τοῦτ' ὀφλὼν ἀπέρχομαι.

Till with toothless gums he mumbles,
then departs condemned and fined;
Sobbing, weeping, as he passes,
to his friends he murmurs low,
All I've saved to buy a coffin
now to pay the fine must go.

ταῦτα πῶς εἰκότα, γέροντ' ἀπολέσαι, πολιὸν ἄνδρα,
περὶ κλεψύδραν,
πολλὰ δὴ ξυμπονήσαντα, καὶ θερμὸν ἀπομορξάμενον
ἀνδρικὸν ἱδρῶτα δὴ καὶ πολύν,
ἄνδρ' ἀγαθὸν ὄντα Μαραθῶνι περὶ τὴν πόλιν;
εἶτα Μαραθῶνι μὲν ὅτ' ἦμεν, ἐδιώκομεν·
νῦν δ' ὑπ' ἀνδρῶν ποιηρῶν σφόδρα διωκόμεθα,
κἄτα προσαλισκόμεθα.
πρὸς τάδε τί ἀντερεῖ Μαρψίας;

How CAN it be seemly a grey-headed man by the Water-clock's stream to decoy and to slay,
Who of old, young and bold, laboured hard for the State, who would wipe off his sweat and return to the fray?
At Marathon arrayed, to the battle-shock we ran,
And our mettle we displayed, foot to foot, man to man,
And our name and our fame shall not die.
Aye in youth we were Pursuers on the Marathonian plain,
But in age Pursuers vex us, and our best defence is vain.
To this what can Marpsias reply?

τῷ γὰρ εἰκὸς ἄνδρα κυφόν, ἡλίκον Θουκυδίδην
ἐξολέσθαι συμπλακέντα τῇ Σκυθῶν ἐρημίᾳ,
τῷδε τῷ Κηφισοδήμῳ, τῷ λάλῳ ξυνηγόρῳ;
ὥστ' ἐγὼ μὲν ἠλέησα κἀπεμορξάμην ἰδὼν
ἄνδρα πρεσβύτην ὑπ' ἀνδρὸς τοξότου κυκώμενον,
ὃς μὰ τὴν Δήμητρ', ἐκεῖνος ἡνίκ' ἦν Θουκυδίδης,
οὐδ' ἂν αὐτὴν τὴν Ἀχαίαν ῥᾳδίως ἠνέσχετο,
ἀλλὰ κατεπάλαισε μέν γ' ἂν πρῶτον Εὐάθλους δέκα,
κατεβόησε δ' ἂν κεκραγὼς τοξότας τρισχιλίους,
περιετόξευσεν δ' ἂν αὐτοῦ τοῦ πατρὸς τοὺς ξυγγενεῖς.
ἀλλ' ἐπειδὴ τοὺς γέροντας οὐκ ἐᾷθ' ὕπνου τυχεῖν,
ψηφίσασθε χωρὶς εἶναι τὰς γραφάς, ὅπως ἂν ᾖ
τῷ γέροντι μὲν γέρων καὶ νωδὸς ὁ ξυνήγορος,
τοῖς νέοισι δ' εὐρύπρωκτος καὶ λάλος χὠ Κλεινίου.
κἀξελαύνειν χρὴ τὸ λοιπόν, κἂν φύγῃ τις, ζημιοῦν
τὸν γέροντα τῷ γέροντι, τὸν νέον δὲ τῷ νέῳ.

Oh, THUCYDIDES to witness,
bowed with age, in sore distress,
Feebly struggling in the clutches
of that Scythian wilderness
Fluent glib Cephisodemus,—
Oh the sorrowful display!
I myself was moved with pity,
yea and wiped a tear away,
Grieved at heart the gallant veteran
by an archer mauled to view;
Him who, were he, by Demeter,
that Thucydides we knew,
Would have stood no airs or nonsense
from the Goddess Travel-sore,
Would have thrown, the mighty wrestler,
ten Evathluses or more,
Shouted down three thousand archers
with his accents of command,
Shot his own accuser's kinsmen
in their Scythian fatherland.
Nay, but if ye will not leave us
to our hardly earned repose,
Sort the writs, divide the actions,
separating these from those;
Who assails the old and toothless
should be old and toothless too;
For a youngster, wantons, gabblers,
Cleinias' son the trick may do.
So for future fines and exiles,
fair and square the balance hold,
Let the youngster sue the youngster,
and the old man sue the old.

ΔΙ. ὅροι μὲν ἀγορᾶς εἰσιν οἵδε τῆς ἐμῆς.
ἐνταῦθ' ἀγοράζειν πᾶσι Πελοποννησίοις
ἔξεστι καὶ Μεγαρεῦσι καὶ Βοιωτίοις
ἐφ' ᾧτε πωλεῖν πρὸς ἐμέ, Λαμάχῳ δὲ μή. . . .

DI. These are the boundaries of my market-place;
And here may all the Peloponnesian folk,
Megarians and Boeotians, freely trade
Selling to me, but Lamachus may not. . . .

(no text)

vos exemplaria Graeca
nocturna versate manu, versate diurna. (Horace, Ars poetica 268-9)

For your part, keep the Greek models
by night turning over in your hands, turning over by day.[1]

Appendix ix: A Brief Guide to the Performance of Roman Song

As mentioned in the Foreword, my quondam mentor Warren Anderson cautioned me that classics scholars would on the whole not accept the assumption that Latin poetic compositions were ever sung, or that musical performance was an aspect of the Roman Muse. As I noted, that view may be changing; or some scholars, at least, are trying to change it: for example, Stuart Lyons, in his recent, carefully documented study of Horace the musician.[2]

I will not argue the case here of Horace or Ovid or anyone else as musical performers of their own works; my arguments are in Leedy 1997. Those who reject them need read no further. That the Latin composers were comprehensive in their emulation of the Greek models there is I think little dispute. Why would not their emulation have included musical performance?[3]

The pronunciation of Latin, I have found, offers more difficulties and unresolvable questions than that of Greek. Foremost among these will be vowel quality, musical treatment of accent (prosody), and elision. The performer will have to decide, at times arbitrarily, these and other matters, but in any case consistency is to be sought. My principal sources of information are L.R. Palmer's The Latin Language (1954; reprint, Univ. of Oklahoma Press, 1988), Chapter 8, "Phonology," and especially Vox Latina: The Pronunciation of Classical Latin by W. Sidney Allen, 2nd ed. (Cambridge U. Pr., 1966/78), VL below; cf. OCD_3 ("Pronunciation, Latin").

The ingenuity of the Latin poets in adapting the Greek models to their own language is truly remarkable, as Latin differs greatly from Greek in its rhythms and sonorities. One aspect of that adaptation seems to be the acceptance of the Latin stress accent as a pitch accent for musical purposes, a practice that will be adopted here: it is straightforward as well as musically effective.[4] On a long vowel or diphthong, the pitch accent will generally be like the Greek circumflex, and on a short vowel like the Greek acute.

The values assumed here of the long vowels are as in Italian, with close e [e:] and o [o:] (but without the offglides of their Greek counterparts). The diphthongs au and ei are as in English how [au] and bay [ei]; ae is not quite as in English by (ā + ī) but rather as ă + ĕ [ae]; similarly, oe is ŏ + ĕ [oe]; eu is much as in Greek, e + u [eu]. y, used in Greek words, is as French u [y].

The short vowels are open to interpretation. Allen (VL) has e as in pet, o as in pot (British pronunciation), u as in put. I prefer sound-values that are simply those of the long vowels but abbreviated in duration: for example, lupus as [lu:pus] rather than [lu:pʊs], docet as [do:ket] rather than [do:kɛt]. This is, I believe, a discretionary matter for the performer, as more specific information appears to be absent.

As to consonants, most present no problem, and most are produced as in Italian: the velars c (= k) and g, dentals t and d, labials p and b; c, p, and t are unaspirated; in Greek words, ch, ph and th are produced with Greek aspiration (above, p.16). f is as in English [f], or better, perhaps, as a bilabial fricative [ɸ]; qu as in English quest [kw]; h is strongly aspirated. r and l are as in Italian [ṛ, rr], [l]. s is never voiced [s]. Geminated consonants are both pronounced.

The nasals m and n have special treatment: n before c, k and qu becomes ng as in sing [ŋ], which I print as ṅ; before the labials b, p, or m it assimilates to m. The combination gn is pronounced ngn (ng in sing); ignis is sounded as ingnis (as it was sometimes spelled in antiquity), printed here as iṅnis.

The letter m has a number of phonological functions as Latin's universal nasal sonant. At the beginning of a syllable it is sounded normally. At the end of a syllable it tends to assimilate to a following consonant if possible, or nasalize the preceding vowel (as in French and Portuguese), or both.[5] Thus somnum [sonnũ], lignum [liŋnũ], spem [spẽ], rixam [riksã], statim [statĩ].

i and u have dual functions: as normal vowels; and as consonants, referred to sometimes as "hardened," often spelled with j and v, respectively, and indicated here as i̯ and u̯. The consonantal i is equivalent to English consonantal y,

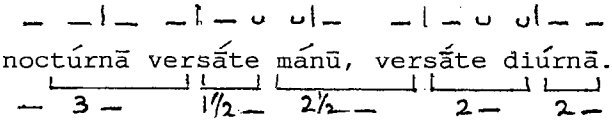
in, e.g., iam, iudex, maior, etc.

Consonantal u, it is generally agreed, was sounded as English w. For musical purposes, however, I prefer the sound and feel of something closer to the Sanskrit v/w or Spanish b/v, a bilabial with noticeable resistance [β], an interpretation for which there is considerable evidence (VL, 41). This is, however, discretionary.

Syllable length in Latin is governed by the same principles as in Greek (above, p.16-17): a long vowel or diphthong makes a long syllable; if a vowel is short, but (in general) followed by two or more consonants (whether or not in the same word) or a double consonant (x, z), its syllable is long. (Remember that i and u are often consonants, and that h is ignored when determining syllable length, as in Greek.) Since Latin orthography does not indicate vowel length, it will have to be determined, if unknown, by reference to a dictionary, or by deduction from metrical analysis. (In the epigram from Horace, above, one can find the long a in "nocturna" by scanning the hexameter line, but not that of the parallel "diurna.") Correption is not found in Latin poetry, except very occasionally with a Greek word.

Accent is straightforward: most disyllables are accented on the first syllable. Longer words are accented on the penultimate syllable if it is long, otherwise on the antepenult. A few words that have lost their original final syllables are oxytone (accented on the ultima); the most frequently encountered are illīc and adhūc.[6] The effect, if any, of the addition to a word of an enclitic (-ne, -ve, -ce, but usually -que, "and") on its accent is disputed.[7] My practice is to treat the word + enclitic as a single word for the purpose of determining accent, so: Mūsaque, Mūsaéque, limínaque, bónaque, bonúsque, etc.

Because of its stress accent, Latin words (quite unlike Greek) have a pronounced rhythmic shape that poets prefer to deploy, especially in epic and elegiac lines, against the metrical pattern, reconciling the two at line-end. The epigram above gives us a typical example in line 269:



A related rhythmic commonplace that can cause some difficulty for speakers of English is exemplified in the preceding line by the word mánū, as well as, in the Horatian Ode below, the words gérīs and iócōs, line 2; bónō and díē, line 6; mérō in 12; and Vénus in 21: a short-long disyllable. The difficulty lies in the fact that the short syllable gets the stress, while the long syllable that follows it is unstressed; such disyllablic words are practically universal at the end of the pentameter lines of later Latin elegiacs--Ovid, for example; it may take some practice to internalize this common rhythm.

Latin's greatest difficulty in performance--spoken or sung--is, however, the treatment of vowel junctions in adjacent words. These are usually treated, according to most grammars, as elisions, where word-end vowels are elided ("knocked out"); we have seen this often in our Greek texts, in which such an omission is indicated by an apostrophe. There is no such device in Latin, and so we are faced with the question, was a line such as

Iustitia excedens terris vestīgia fēcit[8]

performed Iustiti' excedens ...

or Iustiti-iaexcedens ... (i.e., Iustitiyaex-) ?

In other words, were terminal vowels regularly elided, or were they present, but glided through (in synizesis or synecphonesis)? I myself have grave reservations about the former interpretation, generally accepted (including by Allen, VL, 78ff.), and find, for example, ūt cumb' instabilēs for ūt cumbae instabilēs (Vergil, Georgics 4.195) or umbr' Ībant for umbrae Ībant (Georgics 4.472) unacceptable, if not actually ugly. Arguments for the presence of all vowels would include the modern performance of Italian and Spanish poetry, where all vowels are accounted for in such junctures.[9]

The synizesis solution is, be warned, much more difficult; I have spent years on trying to make it sound and feel natural, with some success. It is perhaps best approached one step at a time. Taking the following line as an example:

saepe etiam effossis, sī vēra est fāma, latēbris ...[10]
(1) (3) (2)

1) Liaison of two identical vowels is a trivial case.
2) Liaison of two different vowels produces a diphthong, here ae. Another example, pressō exercēre, gives an oe diphthong. Note that the preceding vowel, whether long or short, is treated as short, e.g., ōdī et amō = ōdi et amō, pronounced ōdiyet... . The word est not infrequently in poetry loses its e- by written elision when preceded by a vowel or -um; vera est and rixa est, for example, can become verast and rixast; timendum est can become timendumst.
3) The nasalizing -m creates an added complication. I recommend first practicing the junction without m, in the example above as etia effossis (ae diphthong). Then nasalize the vowel before the m, probably nasalizing somewhat the entire diphthong. (Note again the (usually) consonantal i in etiam, two syllables.)

Finally comes the remaining obstacle, the introduction of the aspirate h into the liaison, presenting a considerable challenge, especially in the presence of -m. It doesn't get much worse than nondum hiemem ... (Georgics 2.322). I suggest saying first nōndu iemẽ (nondwi-), then nondu hiemẽ (nondwhi-, with a vigorously aspirated wh as in "what"), and finally adding nasalization, even if slight, to the element dhw (nondũwhi-).

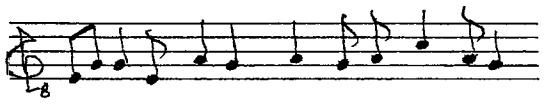
There is an extensive repertory of Latin compositions suitable for singing: Horace's Odes; some of Catullus, perhaps; much of Ovid; and Vergil's Eclogues (which are mentioned as having been sung in representations on the ancient Roman stage).[11] All elegiac compositions probably qualify for musical performance.

The rhythm of the Latin verse of the period we are concerned with was determined exactly as with the Greek: two short syllables take the time of one long (Quintilian, Institutio (see above, p.81 n.24) 9.4.46). The Romans are separated by centuries from their most important models, and by the intervention of the Greek New Music, the influence of which on Roman music is beyond the scope of this study. (We have as Roman models little more than the stupefyingly dull music of Mesomedes, courtier to the Emperor Hadrian ca.140 CE, with Greek texts, which are transcribed in AGM, 303-8.) We will therefore fall back on tested Greek resources, without much evidence of their applicability: the seven-string lyre (mentioned by Horace and Vergil but perhaps only pro forma[12]), the familiar Greek harmoniai, as well as the instrumental contributions to the performance.

Horace: Odes 3.21

e g a b c'e'
6 1 2 3 4 6

anabolē: 4 3 2 42 3 1



61 1 6 2 1 2 1 2 4 21
Ō nāta mēcum consule Manliō — mecuṅ con-
Born with me in Manlius's consulship--

× — ⌣ — — — ⌣ — ⌣ —
2 3 2 3 1 2 2 3 2 4 3 12
seu tū querēlas sīve gerīs iocōs — iocos
whether you complaints or jesting bring,

× — ⌣ — — — ⌣ — —
3 4 2 1 2 1 2 4 3 43
seu rixam et insānōs amōrēs — rixã et in-
or quarrels and crazy love,

— ⌣ ⌣ — ⌣⌣ — ⌣ — —
6 4 3 2 16 1 6 2 1 3 41 2
seu facilem, pia testa, somnum, — sonnũ
or, faithful (wine-)jar, easy sleep,

61 1 6 2 1 2 1 2 4 2 1
quōcumque lectum nōmine Massicum — quocuṅque lectun ... Massicũ
for whatever sake was gathered the Massic vintage

3 2 2 3 1 2 2 3 2 43 12
servās, movērī digna bonō diē, — diṅna
you protect, of setting out worthy on a favorable day,

3 4 2 1 2 1 2 4 3 43
descende, Corvīnō iubente
come down, on Corvinus's order

6 4 3 2 1 61 6 2 1 3 41 2
prōmere languidiōra vīna. — laṅgui-
to bring out a mellower wine.

61 1 6 2 1 2 4 3 2 2 1
nōn ille, quamquam Sōcraticīs madet — quaṅquã
Nor will he, however much steeped in Socratic

2 3 2 2 1 2 2 1 4 2 3 12
sermōnibus, tē negleget horridus.
dialogue, spurn you, bristling:

3 4 2 1 2 1 2 4 3 43
narrātur et priscī Catōnis
it is said that even old Cato

6 4 3 2 1 61 6 2 1 3 41 2
saepe merō caluisse virtūs.
often with unmixed wine warmed his virtuous self.

tū lēne tormentum ingeniō admovēs...
It is you who a gentle (arm-)twisting to the spirits
[apply

plērumque dūrō; tū sapientium
that are mostly resistant; you who wise folks'

cūrās et arcānum iocōsō
concerns and secrets--with jesting Loosener's

consilium retegīs Lyaeō;
help--of (their) plans uncover.

tu spem redūcīs mentibus anxiīs
You it is who hope bring back to worried minds;

vīrēsque et addīs cornua pauperī
strength, too, you add, and courage to the poor
[man,

post tē neque īrātōs trementī
who, with you, neither at the anger trembles

rēgum apicēs neque mīlitum arma;
of kings' crowns, nor at soldiers' weapons.

61 1 6 2 1 2 2 1 2 4 1
tē Līber et, sī laeta aderit, Venus
You will by Liber and Venus, if she is happily
[present,
2 3 2 3 1 2 2 1 4 2 3 12
segnēsque nōdum solvere Grātiae
and by those slow to sunder their ties, the Graces,
3 4 2 1 2 1 2 4 3 43
vīvaeque prōdūcent lucernae,
and by lively lamps--(you will) be kept going
6 4 3 2 1 6 1 6 2 1 61 3 23 6 43 2
dum rediens fugat astra Phoebus. 16 1 62 1
until the return of Phoebus,
[who puts to flight the stars.

tormentū ingenio ad-
pleruṅque ... sapientiū
arcanū io-
consiliū
spē ... aṅxi-
viresqu' et
neque īrā-
regū api- ... militū arma
laet' aderit
seṅnesque nodū
dū

Performance notes: Long vowels are marked where they are consequential in performance. The text is based on that of Shackleton Bailey$_4$ (Teubner/de Gruyter, 2008). Possible enjambment, 13-14, would give the pronunciation sapientiuṅ cū-. The mode consists of mixed-genera trichords (above, p.59-60, 70 n.20).

The example on the preceding pages, an Alcaic carmen of Horace, is given with suggestions for melodic realization. (The cipher or numeral notation is presented on p.108-9; the Alcaic stanza is introduced on p.110 and 112-13. In Horace's Alcaic stanza the fifth syllable of the first three lines is always long, rather than anceps, the practice of Alcaeus.) The subject of this Ode is a familiar one; Horace and his Massic vintage were born in 65 BCE; the first three books of Odes were published in 23, though some poems were probably composed earlier. (Further information can be found, for example, with Charles Passage's translation, The Complete Works of Horace (Frederick Ungar, 1983), p.239-41.) A pronunciation guide based on my own practice is given in a column separate from the text and melody.

Finally, the durability of Italian Song can be appreciated in the melodic calls of vendors in the open-air city and town markets today, especially in Naples and Sicily. They offer us, if we listen carefully, clues to melodic traditions that have been passed along for unknown numbers of generations.

NOTES

1. Literally, "turn (them) with (your) night hand, turn with (your) day (hand)."

2. Music in the Odes of Horace, by Stuart Lyons. Aris & Phillips, 2010.

3. The principal study of Roman music remains Günther Wille's Musica romana: Die Bedeutung der Musik im Leben der Römer (Amsterdam: Schippers, 1967).

4. Stress accent generally includes factors of pitch (usually higher) along with duration and amplitude. Latin grammarians stressed the aspect of pitch in the accent, Varro, for example: "Ab altitudine discernit accentus, cum pars verbi aut in grave deprimitur aut sublimatur in acutum" ("The difference in height comes from accent, when a part of a word is either lowered in the grave or raised in the acute"). Cf. VL, 83; Palmer, The Latin Language, 211; Edgar H. Sturtevant, The Pronunciation of Greek and Latin, 2nd ed. (reprint, Chicago: Ares, 1975), 187-9.

5. Palmer, The Latin Language (above, p.261), 224: "Final m was weakly pronounced and was little more than a nasalization of the preceding vowel." The tilde ~ is used to indicate vowel nasalization.

6. Allen, VL, 87, adds to this list "contracted perfect forms" such as disturbāt (= disturbāvit), which may be considered here.

7. VL, 87-8.

8. Vergil, Georgics 2.474: "Justice, leaving the earth, took her last steps."

9. Sometimes called synalepha (above, p.32). "In singing [Italian], [the] final and initial vowels [of adjacent words] must be connected by liaison." Kurt Adler, Phonetics and Diction in Singing (Univ. of Minnesota Pr., 1965), 38. "[A]ll the vowels are pronounced" in vowel adjacencies in Spanish. Carlos Piera, "Southern Romance," Meter in Poetry: A New Theory, by Nigel Fabb and Morris Halle (Cambridge U. Pr., 2008), 98.

10. Georgics 4.42: "Often, too, if reports are true, in tunneled hiding places (they have made a home)."

11. See Lyons (above, note 2), p.40 (Vergil), 36, 40 n.190 (Ovid), 33-7 (Catullus).

12. See Lyons (above, note 2), p.90, for Roman references to the seven strings, including a pair of lines from the Aeneid (6.646-7): "obloquitur numeris septem discrimina vocum/iamque eadem digitis, iam pectine pulsat eburno." ("[Orpheus's shade] applies to the (dance-)rhythms the seven separate pitches (strings),/these now with the fingers, now with a plectrum striking of ivory.") For the playing techniques, cf. Plato, Lysis 209b (above, p.80 n.16).

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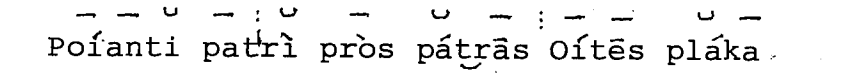
iv ¶1, line 9, after untried here: read: dithyramb and nomos, for example;

71 n.23, delete Chez l'Auteur, 2006; add: 2006-11, www.shere.org/Leedy/Midtone.pdf

85, Performance notes, add: To show whether or not the combination of a consonantal stop plus a semivowel lengthens the preceding syllable, two standard signs are used as in the following line (1430) from Sophocles's Philoctetes, an iambic trimeter (below):



Poíanti patrì pròs pátrās Oítēs pláka

(to Poias, (your) father, to the homeland Oeta's plain)

96 n.3, add: In the instrumental extensions, an upper-case letter is a long (♩), lower-case a short (♪).

98 n.11 ¶2, l.1, for (see below) read: (see above, p.89f.)

120 ¶3, l.5, for are parsed read: he scans

121 ¶2, l.2, change metron to: colon

131 ¶3, l.1, for (cf. below) read: (see above, p.59-60 with n.20)

132 ¶1, l.14, for , already noted (above, p.), read: below, p.218, 225)

154, l.7, for the fear read: its fear

156, l.1, read: 668-719

158-9, seven-string kithara plays 7 75 with λεύσσει/θρώισκει, 705/718

165 n.27, l.4, for metron read: foot

173 ¶3, l.3, for notation read: intonation

175, l.7, for (also a rewritten entry) read: (a newly written entry)

181, l.4, for hands and arms read: hands, arms and head

192 ¶3, l.4, for p.7 read: p.193

196 n.4 ¶3, l.3, delete Aristoxenus and substitute: ed., Die Schule des Aristoteles, 2nd ed. (Basel/Stuttgart, 1967)

206 n.11, l.1, between arkhaiïkôs and auloûntos add: tinos

215, l.1, for trineter read: trimeter

217, l.2, for favorite read: favored

218, l.3, after strophic line add: a melody

223, epigram translation, l.3, after ideas add: and words

AFTERWORD

In addition to the acknowledgment offered in the Foreword, I wish to express my especial indebtedness to Charles Shere, who brought to my attention the announcement of the Berkeley Classics Department's on-line series, California Classical Studies, as well as to thank my brother Allan for generously shepherding my manuscript along the digital pathways. To the Department of Classics of the University of California, Berkeley, and especially to its Melpomene Professor of Classics, Donald J. Mastronarde, it is a particular pleasure to express my appreciation and gratitude for their willingness to host the manuscript of this handbook as a free digital download, as part of their eScholarship Repository, and for their efficiency and courtesy in the process of publication. More than a half century ago, in his course on Homer's *Iliad*, Professor Gerson Rabinowitz challenged me, a graduate student in U.C. Berkeley's Music Department sitting amidst Classics majors, to investigate and report on the music of Homer and the ancient Greeks. No investigation could have been more rewarding. Here, in *Singing Ancient Greek*, is my report, in a varied repertoire of responses to that lucky challenge.

ΤΑΙΣ ΜΟΥΣΑΙΣ ΑΕΙΔΩ ΚΑΙ ΕΜΑΥΤΩΙ

Corvallis, Oregon
February 2014