Catalexis and Anceps in Pindar:
A Search for Rhythmical Logic

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THE PRESENT STUDY had its origin in an attempt to understand the rhythmical pattern of Pindar's dactylo-epitrite odes.[1] Dactylic rhythm is in 4-time (what Aristoxenus calls the ἴcoc λόγοc or 2:2 ratio) and trochaic or iambic is in 3-time (the διπλάcιoc λόγoc or 2:1 ratio), and when Greek lyric poetry appears to combine these rhythms it may be thought to be alternating between 4-time and 3-time, an alternation or μεταβολή[2] which ancient musicians would understand and to which they would respond without difficulty. It might seem to follow that a dactylo-epitrite ode offers alternation between 4-time (dactylic) and 7-time (epitrite), the 4:3 ratio.

But here difficulties arise. It should first be noticed that Aristoxenus specifically rejects 7-time, the ἑπτάcημον μέγεθoc, and the 4:3 ratio, saying it is irrational and unrhythmic,[3] though he does not deny, it seems, that epitrite feet occasionally occur (this is what he appears to say in a fragment quoted by Michael Psellus).[4] We may be inclined to

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[1] Some of the argument of this article was presented orally in papers to the Classical Section of the Philological Association of the Pacific Coast at Gonzaga University in November 1970 and to the Institute of Classical Studies, University of London, in February 1972. The present version includes many modifications and, it is hoped, some improvements and is more strictly limited in its scope.

[2] *Cf.* Dion.Hal. *De Comp.Verb.* 19, [Aristot.] *Prob.* 19.15, and Quint. *Inst.Or.* 9.4.50, where he explains the difference between *rhythmi* and *metra*: *Sunt et illa discrimina, quod rhythmis libera spatia, metris finita sunt; et his certae clausulae, illi quomodo coeperant currunt usque ad* μεταβολήν, *id est transitum in aliud genus rhythmi.* By *rhythmi* Quintilian means not only 'rhythms' but poems (like Pindar's odes) that are not written in a fixed 'metre' like iambic trimeter or trochaic tetrameter. *Cf.* Carlo Del Grande, *La Metrica greca*, in *Enciclopedia Classica*, SEZ. II, V.ii (1960) 230–32. The term *metabole* is evidently as old as Aristoxenus, as shown in the fragment quoted by Plut. *De Mus.* 1143B. *Cf.* L. Laloy, *Aristoxène de Tarente* (Paris 1904) 324, and R. Westphal, *Melik und Rhythmik des class. Hellenentums* I (Leipzig 1883, repr. 1965) 160–61.

[3] *Rhythm.* 35 (Westphal), 302 (Mor.), p.25 (Pighi): Τὸ δὲ ἑπτάcημον μέγεθoc οὐκ ἔχει διαίρεcιν ποδικήν· τριῶν γὰρ λαμβανομένων λόγων ἐν τοῖc ἑπτὰ οὐδείc ἐcτιν ἔρρυθμoc· ν ὧεῖc μέν ἐcτιν ὁ τοῦ ἐπιτρίτου, δεύτερoc δὲ ὁ τῶν πέντε πρὸc τὰ δύο, τρίτoc δὲ ὁ τοῦ ἐξαπλαcίου.

[4] Psellus, fr.9, p.26 (Pighi): Τῶν ποδικῶν λόγων εὐφυέcτατοί εἰcιν οἱ τρεῖc· ὅ τε τοῦ ἴcου καὶ ὁ τοῦ διπλαcίου καὶ ὁ τοῦ ἡμιoλίου. γίνεται δέ ποτε ποὺc καὶ ἐν τριπλαcίῳ λόγῳ, γίνεται καὶ ἐν ἐπιτρίτῳ.

disregard his rejection of 7-time, since musicians today do not find 7-time more difficult or awkward than 5-time, the 3:2 ratio, which he allows.[5] It is possible that elsewhere in his treatise on rhythm he reconciled his theoretical objections with the practice of Greek composers. But he may be telling us, as modern critics do, that although certain odes appear to be 'dactylo-epitrite', we must not be content with this superficial definition but seek some more satisfactory rhythmical explanation.

Ancient writers insist on the distinction between metre and rhythm, but little or nothing is said of this distinction by the current school of metricians, whose doctrines are most commonly presented to students in this country. They maintain that lyric metre can be analyzed into 'metrical units' linked by *syllabae ancipites*, and that an apparent epitrite consists of the metrical unit —∪— (a cretic) followed by a *syllaba anceps*.[6] It is a fundamental objection to this explanation that it is unrhythmic, that it does not stop to ask about the prevailing rhythm or the alternating rhythms in a strophe.[7] And while seeking to explain away the epitrite, it provides a substitute which is open to exactly the same objection. It is a recognized principle of ancient rhythmical theory, quoted by Aristotle himself, that "one βάϲιϲ does

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[5] 7/4 or 7/8 time is formally marked in some XX-century compositions, but it is not common (the example best known to me is Guillaume Lekeu, Sonata for violin and piano, second movement, published in 1907). 5/4 time, on the other hand, has become quite familiar since the late romantic period, and Westphal's remark (*op.cit.* [*supra* n.2] II.clx) that it is "unserer modernen Musik so gut wie fremd" seems curiously outmoded today.

[6] *Cf.* especially Paul Maas, *Greek Metre*, trans. H. Lloyd-Jones (Oxford 1962) §55, and A.M. Dale, "The Metrical Units of Greek Lyric Verse," in *Collected Papers* (Cambridge 1969) 41–97 (for dactylo-epitrite more particularly 53–60). I do not wish to decry the useful work that metricians have done by their statistical analysis of lyric verse, *e.g.* Dale, "Metrical Analyses of Tragic Choruses, i, Dactylo-Epitrite," *BICS* Suppl. 21.1 (1971). My complaint is that such statistical analysis is often regarded as an answer to a problem instead of a collection of evidence which needs interpretation.

[7] *Cf.* Del Grande, *op.cit.* (*supra* n.2) 214–15. Indeed the same criticism can be made of modern metricians that Émile Martin makes of the late Greek writers on metric: "Au lieu de se laisser guider par l'oreille et le sentiment inné du rythme, ces métriciens décomposent mécaniquement les mètres sans se soucier de leur valeur rythmique propre," *Essai sur les rythmes de la chanson grecque antique* (Paris 1953) 50–51. Like the metricians of late antiquity, modern metricians have produced a highly complex system. In [Aristot.] *Prob.* 19.15 we are told that antistrophic choral odes were not rhythmically complex but fairly simple, εἰϲ ῥυθμὸϲ γάρ ἐϲτι καὶ ἑνὶ μετρεῖται. Even if this last statement is not literally true (if the words are given the meaning to which we are accustomed), it should warn us that we must look for a prevailing rhythm.

not make a *ῥυθμός*,"[8] evidently a proverbial saying like "one swallow
does not make a summer," "one step does not make a waltz." Single
dactylic or trochaic feet do not occur in Pindar; there is always at least
a dipody to establish 4-time or 3-time; but the epitrite quite often
occurs (apparently) in isolation, as at the beginning of *Olympian III*:

<div align="center">

Τυνδαρίδαις τε φιλοξείνοις ἀδεῖν καλλιπλοκάμῳ θ' Ἑλένᾳ

— ∪∪| — ∪ ∪| — —| — ∪ — — | — ∪∪| — ∪ ∪|—

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Can it be correct to analyze this as dactylic rhythm interrupted by
a single epitrite *basis*, with a quick return to the original dactylic
rhythm, or should we say that the epitrite is really a trochaic dipody,
with its last syllable commonly lengthened, —∪—∪̄, comparable to
the iambic dipody or metron, which establishes the rhythm of the
iambic trimeter and has its first syllable apparently *anceps*, ∪̄—∪—?
And how is the isolated cretic (the 'metrical unit' substituted for the
epitrite) preferable, when it occurs in isolation and, as a single *basis*,
cannot establish rhythm?

The whole notion of *syllabae ancipites* is also alien to rhythmical
theory. Should we be content to record what we observe, ignoring the
theory, or seek some way of reconciling our observation with it?
Modern metricians pay little attention to ancient rhythmic theory, on
the ground that direct evidence for it is inadequate (since only a frag-
ment of Aristoxenus' *Elementa Rhythmica* survives and Aristoxenus, in
any case, may not represent orthodox opinion) and the indirect evi-
dence, from later writers, is hopelessly confused. Some metricians are
prepared to regard the *anceps* as having some indeterminate quantity
or an intermediate length between long and short (this seems to me
a very curious attitude, as though in a restaurant which offered the
alternative of tea or coffee they would be content if offered something
in between tea and coffee to drink). They ignore the objection of
Aristoxenus, who will not accept any ratio except 2:2, 2:1, and 3:2.[9]

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[8] Arist. *Pol.* 2.1263b, ὥσπερ κἂν εἴ τις τὴν cυμφωνίαν ποιήcειεν ὁμοφωνίαν ἢ τὸν ῥυθμὸν βάcιν
μίαν (as examples of paradox).

[9] Paul Maas in his *Greek Metre* (which orthodox metricians regard as an authoritative
handbook) suggests that the time value of the *anceps* "lay somewhere between that of the
longum and breve" (§51). He appears not to be interested in seeking the support or con-
sulting the opinion of ancient writers on such a matter. Others, who use the term 'irra-
tional' to describe the final long syllable of the apparent epitrite, claim that they have the
authority of Aristoxenus for this term (*cf. e.g.* W. J. Koster, *Traité de métrique grecque*[2] [Ley-
den 1953] 27, A. Kolar, *De re metrica poetarum Graecorum et Romanorum* [Prague 1957] 44).
Aristoxenus in fact says that 'irrational' feet may occur in which there is a ratio between

But apart altogether from ancient theory, the *syllaba anceps* seems to pose an impossible problem for the performer: how can a performance be anything but chaotic, if musicians and dancers never know when a long note may be shortened? The problem is not serious, perhaps, in spoken dramatic dialogue, but in choral lyric it cannot be passed over as of no importance. It is all very well to maintain that the rhythmical instinct of the ancient Greeks was different from ours, but persons who make such statements must recognize that the burden of proof rests on them; it is for them to show how and why ancient rhythmic instinct and ancient hands and feet and voices were different from ours.[10] Unless they can provide proof, it may be easier to explain away the *anceps* as well as the epitrite.

But before attempting or even admitting the need for such a task it may be best to clear away some preliminary difficulties. If one starts out with the traditional interpretation of dactylo-epitrite rhythm, accepting provisionally that it is an alternation of dactylic, 4-time, with epitrite, 7-time, one soon discovers that Pindar's words will not fit easily into such a regular pattern of alternation. The final syllable of the epitrite often appears as short, and so also, though much less frequently, does its third syllable, $-\cup\underline{\cup}-$ (unless the evidence of the manuscripts is neglected).[11] The final syllable of the dactylic hemiepes is also often short, $-\cup\cup-\cup\cup-\underline{\cup}$, and in their catalectic form both epitrite and hemiepes often have their final syllable short, $-\cup\underline{\cup}$, $-\cup\cup-\cup\cup\underline{\cup}$. These variations would trouble no one if they occurred only at the end of a strophe or in some other place where a final close was clearly intended. But the variation between long and short syllables, long in one strophe and short in another, is not restricted to

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arsis and *thesis* other than 2:2, 2:1, or 3:2. But he means that they occur when someone sings or dances out of time, just as 'irregular' intervals occur (between a fourth and a fifth or fractions of a quarter tone) when someone sings out of tune; such irrational feet, he says, have no place in *rhythmopoiia* and are not κατὰ τὴν τοῦ ῥυθμοῦ φύσιν, just as the irregular intervals are impractical for purposes of performance and have no place in melody. His statement is clear and lucid in *Rhythm.* 20 (W.), 292–96 (M.), pp. 22–23 (Pighi). He could not express himself in this way if he found 'irrational' feet in every strophe of Pindar's odes. *Cf.* Laloy, *op.cit.* (*supra* n.2) 299–300.

[10] *Cf. e.g.* F. Greif, "Études sur la musique antique," *REG* 26 (1913) 289: "Il ne sert de rien de se réfugier dans la nuit des temps reculés pour affirmer que la conception rythmique des anciens était différente de la nôtre."

[11] *Cf.* C. M. Bowra, "An Alleged Anomaly in Pindar's Metric," *CQ* 24 (1930) 174–82, who argues the case for alternate readings or emendations. The problem of the *tertia brevis* must be reserved for another occasion.

places where a final close seems to be indicated. It occurs constantly in the middle of a strophe, for example in *Pythian III*, which begins:

> ῎Ηθελον Χίρωνά κε Φιλυρίδαν,
> εἰ χρεὼν τοῦθ᾽ ἀμετέρας ἀπὸ γλώccαc
> κοινὸν εὔξαcθαι ἔποc, ζώειν τὸν ἀποιχόμενον,
> Οὐρανίδα γόνον . . .

In the first line the catalectic hemiepes, following the epitrite, has its final syllable long, as in other triads, but in the third line the catalectic hemiepes, after an epitrite dimeter, has its final syllable short, though it is long in other triads. If long syllables are regularly given twice the value of short, how is it possible to have this variation between one triad and another without altering the rhythm and confusing the dancers and musicians? It must also be asked if the singers continue without rest or break after the catalectic hemiepes. The two questions can be answered together: if the singer has a rest after a catalectic hemiepes, it does not affect the rhythm whether the final syllable is long or short. Thus clarity and rhythm are preserved if the words are intended to be sung like this:

$$\tfrac{7}{4}\ \text{♩ ♩ ♩ ♩}\ |\ \tfrac{4}{4}\ \text{♩ ♩ ♩}\ |\ \text{♩ ♩ ♩}\ |\ \text{♩ ⌐ }\ |$$

$$\tfrac{7}{4}\ \text{♩ ♩ ♩ ♩}\ |\ \tfrac{4}{4}\ \text{♩ ♩ ♩}\ |\ \text{♩ ♩ ♩}\ |\ \text{♩ ♩}\ |$$

$$\tfrac{7}{4}\ \text{♩ ♩ ♩ ♩}\ |\ \text{♩ ♩ ♩ ♩}\ |\ \tfrac{4}{4}\ \text{♩ ♩ ♩}\ |\ \text{♩ ♩ ♩}\ \left|\begin{array}{l}\text{♩ ⸓ ⌐ (str. α)}\\ \text{♩ ⌐ (str. β)}\end{array}\right.$$

The sixth line of the first strophe provides an even clearer illustration:

> οἷοc ἐὼν θρέψεν ποτὲ τέκτονα νωδυνίαc.

The unwary reader may read this as dactylic sequence,

—∪∪ — — —∪∪ —∪∪ —∪∪ —.

But comparison with the second strophe,

> παρ᾽ εὐθυτάτῳ γνώμαν πιθών, πάντα ἴcαντι νόῳ,

shows that the apparent dactyl, -ψεν ποτέ, is really epitrite catalectic, —∪∪̠. How is the singer to mark the rhythm, keeping it the same in each strophe, unless he sings:

$$\tfrac{4}{4}\,\text{♩ ♩ ♩} \mid \text{♩ ♩} \mid \tfrac{7}{4}\,\text{♩ ♩ ♩ ↊} - \mid \tfrac{4}{4}\,\text{♩ ♩ ♩} \mid \ldots (str.\ \alpha),$$

$$\tfrac{4}{4}\,\text{♩ ♩ ♩} \mid \text{♩ ♩} \mid \tfrac{7}{4}\,\text{♩ ♩ ♩ ↊} - \mid \tfrac{4}{4}\,\text{♩ ♩ ♩} \mid \ldots (str.\ \beta)?$$

The question may be put in different form by returning to the opening lines of the strophe. If there is no rest after the catalectic hemiepes, what happens to the rhythm? Is the dactylic rhythm succeeded by anapaestic, or is there a single note, a 'non-foot', between two feet[12] before the dactylic rhythm resumes? Far simpler than such rhythmic complexity is the solution that the term 'catalectic' suggests of itself. Although authors of metrical handbooks generally avoid giving any intelligible definition of the term, the catalectic form of a metrical sequence is so called not simply because it leaves the final upbeat of the normal sequence silent, but because it is an appropriate way of reaching a close—of 'ceasing'.[13] To modern taste also it seems normal to reach a close on the downbeat and to take a rest on the upbeat before resuming the rhythmical pattern; the upbeat, the remaining *megethos* of the foot, can be observed as well in silence as in sound.[14]

[12] Aristoxenus will not allow a shorter foot than a τρίσημον μέγεθος (*Rhythm.* 31 [W.], 302 [M.], p.24 [Pighi]). Far less can a short syllable be a 'foot', Ὅτι μὲν οὖν ἐξ ἑνὸς χρόνου ποὺς οὐκ ἂν εἴη φανερόν, 18 (W.), 290 (M.), p.21 (Pighi).

[13] D. S. Raven, *Greek Metre* (London 1962) 37–38, will hardly help anyone to understand *catalexis* when he calls it "suppression of a syllable" or "a special form of syncopation." Bruno Snell, *Griechische Metrik*[3] (Göttingen 1962) 5 n.2, is more correct but also quite enigmatic when he speaks of *catalexis* as "eine Silbe in zwei Elementen" and adds "denn auch hier gleicht natürlich die Zeit der Pause die fehlende Silbenzeit aus." Likewise Paul Maas, *op.cit.* (*supra* n.6) §58, is content to say that, when a pause is reached, "the group that precedes the pause, the *clausula*, usually differs from the rest in form by being abbreviated, or, as we say, *catalectic*." In §51, however, he takes the true explanation for granted—an admirable paragraph, but baffling to anyone who has not thought out the solution for himself and reached the same conclusion.

[14] The statement will seem obvious enough to any persons who are accustomed to sing "the home of the brave" (not "the fearless"), "blow, blow, thou winter wind" (not "thou wind of winter"), or "ein' feste Burg ist unser Gott" (not "unser Herr Gott"). Metricians of the school now in fashion may regard such a statement as totally irrelevant to ancient poetry, because they refuse to use the terms 'upbeat' and 'downbeat' or *arsis* and *thesis* in any discussion of metre, as though it were irrelevant how the dancers kept step or how the musicians kept the time with their feet. And yet one supposes they must have read *De Sublim.* 41 and the remarks of Aristoxenus about "marking the rhythm and making it perceptible to the senses" in *Rhythm.* 16 (W.), 289 (M.), p.21 (Pighi). A 'foot' after all is not called a foot because it is a mark on a piece of paper.

With regard to 'rests' in choral lyric we have the clear statement of Quintilian (a writer whose authority should never be despised): *Inania quoque tempora rhythmi facilius accipient,*

Metricians seem unwilling to concern themselves with such practical details as measured rests, and indeed show little interest in problems of performance. It seems they are content to apply the adjective *anceps* without asking what the poet-composer expects his performers to do with *syllabae ancipites*. Their fundamental mistake is in treating these syllables in isolation; but the proof and explanation of this accusation must wait until later in this article.

A rest, whether of one, two, or three *chronoi* (the equivalent in 4/4 time of a quarter note, a half note, or a dotted half note), at a *catalexis* is certainly the easiest way of reconciling the variations between long and short considered so far. And does anyone propose to read a dactylic pentameter otherwise than as:

$$\textrm{♩♩♩} \mid \textrm{♩♩♩} \mid \textrm{♩ -} \mid \textrm{♩♩♩} \mid \textrm{♩♩♩} \mid \textrm{♩ -?}$$

It should also be asked if singers are expected to sing an entire strophe or epode without any rests in which to take breath. And does it follow that the orchestra is silent or the dancers stationary during such rests? It seems to me most unlikely that the dancers came to a standstill until the end of a strophe or even the end of a triad; dancers do not interrupt their movement in order to breathe, and it may involve a greater effort to stop than to keep moving. Unfortunately for modern scholarship no musical score or choreographic design for any of Pindar's odes has survived from antiquity, and the actual musical texts that have been discovered provide only very little help. We have to do the best we can with the words alone. It is almost as though Schubert's music were lost, and we had only some poems of Goethe and Heine preserved as "Schubert's compositions." But it is not quite so bad as that, because Greek verse recognizes quantitative differences and cannot be set to music with the same rhythmic freedom as English or German or French.[15] Despite our handicap, we must not fall into the error of treating Pindar's poems as though they were meant for private reading or declamation. They were meant for musical performance; Pindar was a composer as well as a poet.

It is equally important to remember the differences between sung and spoken verse. Spoken Greek had a tonic accent, and it is customary

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quamquam haec in metris accidunt. Maior tamen illic licentia est, ubi tempora etiam et metiuntur et pedum et digitorum ictu, et intervalla signant quibusdam notis atque aestimant quot breves illud spatium habeat (Inst. 9.4.51). For his distinction of rhythmi and metra see n.2 above.

[15] *Cf.* the good remarks of Émile Martin, *op.cit. (supra* n.7) 82–85.

to say that it had no stress accent. But music, especially music that accompanies dancing or marching, will introduce a stress accent, sometimes stronger, sometimes weaker, with a downbeat and an up-beat that dancers and marchers will recognize, a *thesis* or *basis* when they will put their foot on the ground and an *arsis* when they will raise it.[16] Modern metricians speak of the rhythm of Greek verse as "purely quantitative." This may to a great extent be accurate of spoken verse, but it cannot be correct of choral lyric. Without Pindar's music we cannot hope to discover all the dynamic effects and subtleties that he intended, but the combination of rhythmic pattern and words should tell us much of what we want to know. For example, it will sometimes suggest that a strong emphasis or *fortissimo* is demanded elsewhere than on a downbeat and elsewhere than on a syllable that is accented tonically.[17]

There is also much to be learnt from the conventions of spoken verse towards solving the mystery of the *anceps*. In iambic trimeter, as in dactylic hexameter, it causes no difficulty that the last syllable of the verse appears to be *anceps*. When the end of a verse in iambic trimeter coincides with the end of a sentence or clause, we can quite properly say that the final iambus may take the form ♩ ♩ 𝄾, since a break or rest before starting the new verse will be appropriate. But what happens when a break at the end of a verse would be inappropriate?

One might have expected that the matter would have been investigated before now, but Maas is content to say: "The last element of the line . . . is always anceps in so far as any last syllable of a line may be prosodically long or short (Aristeides Quintilianus 1.21 p.44 uses the term ἀδιάφορος). But since internal response very often requires a longum, and hardly ever a breve, at this place, and since we have to reckon with the possibility that even a short final syllable may have

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[16] There has been confusion about the terms *arsis* and *thesis*, because later antiquity reversed their meanings, applying them to the raising and lowering of the voice instead of the feet. Metricians (*cf.* especially Maas, *Greek Metre* §8) have taken advantage of this confusion, claiming that it absolves them from attaching any importance to the terms. Maas, indeed, regards them as "superfluous concepts." He says he is trying to describe "the most important phenomena with as few preconceptions as possible," but seems not to recognize that it is just as much a preconception to deny as to admit that one perceives something. It must be remembered constantly, of course, that musical downbeat is not the same as verbal stress accent, though it will often correspond with it in languages that have a strong verbal accent.

[17] This is a matter which I hope to discuss in a subsequent article.

been made prosodically long by the presence of a pause after it (*brevis in longo*), every final element is noted as a longum. [But it would be better to note it as a 'finale', and to denote it by the symbol ⌒."[18]]

A study of some passages from Attic tragedy soon convinced me that there was no need for such equivocal language about iambic trimeter, and that it was not a matter of indifference whether a particular verse ended in a long or a short syllable. Wherever I looked I found that in nearly every case in which the final syllable was short, a break or rest before the first word of the next verse was appropriate, even though modern convention might not think it correct to insert a punctuation mark. On the few occasions when, at first glance, it seemed better to continue without a break, brief reflection convinced me that a break was in fact acceptable, if not actually necessary. On the other hand, when it was essential (or clearly desirable) that the speaker, in order to make his meaning clear, should proceed without break from one verse to the next, the final syllable was regularly long, either by nature or by position, when the first word of the next verse began with a consonant (or a double consonant, if the short final syllable ended in a vowel).[19]

It may seem rash to express oneself so dogmatically without offering a complete statistical analysis of all surviving Attic drama, but an examination of representative passages from the three tragedians produced remarkably consistent results. The passages which I chose to examine were the messenger scene from Aeschylus, *Persae* (294–531), the prologue and first epeisodion from Sophocles, *Oedipus Tyrannus* (1–150, 216–460), and Euripides, *Hecuba* (1–58, 218–443), and the messenger scene from *Iphigenia in Tauris* (1284–1489). The selection was made quite at random, except that messenger scenes and prologues were included as containing fewer changes of speaker.

[18] *Greek Metre* §34. I prefer to avoid the term 'pause' and the symbol ⌒, which suggests an indeterminate interval, such as occurs at the end of a period or if some special effect is intended. I use the term 'rest' in its musical sense of a measured interval, which can be denoted by precise musical symbols, and 'break' to denote a 'stop', as indicated in music by ', where a singer may take breath by robbing the preceding note of some of its value.

[19] J. Descroix, *Le trimètre iambique* (Macon 1931) 288–95, examines the most striking examples in the tragedians of continuity between one verse and another—where "à ce repos du mètre ne correspond aucun arrêt du sens." He does not point out that the final syllable is almost invariably long in the passages that he cites. In some of them the verse ends with παρά, ὑπό, or ἐπί, and when the following word does not begin with a double consonant, as in Soph. *Trach.* 539 μιᾶς ὑπὸ χλαίνης, it is followed by a *nu*, as in *Trach.* 557 and *Phil.* 626, ἀλλ' ἐγὼ μὲν εἶμ' ἐπὶ ναῦν. An actor would certainly be tempted to say something like ἐπὶνναῦν, so as to avoid the break.

The Sophocles passages will be considered first, since they supply some of the most remarkable examples. It will be noted that modern editors add a punctuation mark only slightly more frequently after short final syllables than after long. But as one looks at verses where there is no comma after a short syllable, one can see immediately that a break is always permissible, often highly appropriate, sometimes indeed demanded by hiatus:

2 τίνας ποθ' ἕδρας τάςδε μοι θοάζετε
 ἱκτηρίοις κλάδοιςιν ἐξεςτεμμένοι;

15 ὁρᾷς μὲν ἡμᾶς ἡλίκοι προςήμεθα
 βωμοῖςι τοῖς coῖc,

228   πείςεται γὰρ ἄλλο μὲν
 ἀςτεργὲς οὐδέν, γῆς δ' ἄπειςιν ἀβλαβής.

It may surprise some readers that a break is permitted after ὅτι (59) or ἄν (12), when it precedes its verb,[20] but they will remember that phrases like δηλονότι and τάχ' ἄν can be used parenthetically and that a break after other uses of relative pronouns and adverbs seems normal enough. Sometimes a break at the end of the verse is effective in laying emphasis on the word or phrase that follows:

246   εἴτε τις
 εἷς ὢν λέληθεν εἴτε πλειόνων μέτα,

249   οἴκοιςιν εἰ ξυνέςτιος
 ἐν τοῖς ἐμοῖς γένοιτ' ἐμοῦ ςυνειδότος . . .

More remarkable is the exploitation of hiatus:

26 τόκοιςί τε
 ἀγόνοις γυναικῶν,

350 ἐννέπω cὲ τῷ κηρύγματι
 ᾧπερ προεῖπας ἐμμένειν,

401 κλαίων δοκεῖς μοι καὶ cὺ χὠ cυνθεὶς τάδε
 ἀγηλατήςειν.

The jolt at the end of the verse with hiatus after the short final syllable is unmistakable and startling, and it puts a special emphasis on the word that follows.[21] The interval occupied by the hiatus, the

[20] Cf. Soph. Ant. 61, 98, 649, 1043; Phil. 46, 64.
[21] Cf. Soph. Phil. 268, Ajax 323, Eur. Ion 3.

'noteworthy silence' as ancient critics called it, is distinctive.[22] The dramatists permit hiatus only at the end of a verse, where it is quite common, and not all examples of it are equally startling.[23]

No long investigation is needed to show that the final syllable is long when it is important that no break be made at the end of a verse, for example:

16   οἱ μὲν οὐδέπω μακρὰν
πτέσθαι cθένοντεc, οἱ δὲ cὺν γήρᾳ βαρεῖc,
ἱερῆc, ἐγὼ μὲν Ζηνόc, οἵδε τ᾽ ᾐθέων
λεκτοί

No break can be allowed after μακράν or ᾐθέων, though it may be desirable after βαρεῖc. Another clear example is:

236   τὸν ἄνδρ᾽ ἀπαυδῶ τοῦτον, ὅcτιc ἐcτί, γῆc
τῆcδ᾽, ἧc ἐγὼ κράτη τε καὶ θρόνουc νέμω . . .

And there are some striking examples in the speeches of Tiresias:[24]

316   φεῦ φεῦ, φρονεῖν ὡc δεινὸν ἔνθα μὴ τέλη
λύῃ φρονοῦντι,

324   ὁρῶ γὰρ οὐδὲ coὶ τὸ còν φώνημ᾽ ἰὸν
πρὸc καιρόν·

337   ὀργὴν ἐμέμψω τὴν ἐμήν, τὴν cὴν δ᾽ ὁμοῦ
ναίουcαν οὐ κατεῖδεc . . .

Parallel examples in these different categories are easily found in the other plays. In Persae (364f):

εὖτ᾽ ἂν φλέγων ἀκτῖcιν ἥλιοc χθόνα
λήξῃ,

[22] Cf. Dion.Hal. Dem. 38: δείκνυται γὰρ ὑπό τε μουcικῶν καὶ μετρικῶν ὁ διὰ μέcου τῶν φωνηέντων χρόνοc ἑτέρων παρεμβολῇ γραμμάτων ἡμιφώνων ἀναπληροῦcθαι δυνάμενοc. τοῦτο δ᾽ οὐκ ἂν ἐγίγνετο μὴ cιωπῆc τινοc ἀξιολόγου διειργούcηc τὰ φωνήεντα ἀπ᾽ ἀλλήλων. He has just remarked that the use of hiatus helps to give the effect of τὸ cεμνόν which is characteristic of the 'austere' style. Modern critics are inclined not to think of hiatus as serving any purpose and generally notice only how much or how little care is taken to avoid it. Maas says that in Greek poetry it is "generally carefully avoided except at a pause" (Greek Metre §141). 'Pause' is not a good term to describe the break at the end of a verse; the χρόνοc or cιωπή at hiatus is hardly a pause (certainly not in the passages cited), and it should be remembered that one cannot take breath at a hiatus unless there is a longer rest or pause, such as there might be at the end of a period.

[23] Other interesting examples in the OT are 7, 70, 97, 108, 300, 352, 421. Hiatus after a long vowel or diphthong in the final syllable occurs at 31, 60, 124, 222, 258, 317, 372, 404, 413. It seems not to produce the same kind of jerk, since it is easier to insert a semivowel, as described by Dionysius of Halicarnassus (see preceding note).

[24] Cf. also Soph. Phil. 263–67, 320–23, 327–28, 337–38.

the break after the short final syllable puts emphasis on the unexpected word that follows,[25] and in 358–60:

> Ἕλληνες οὐ μενοῖεν, ἀλλὰ cέλμαcιν
> ναῶν ἐπενθορόντεc ἄλλοc ἄλλοce
> δραcμῷ κρυφαίῳ βίοτον ἐκcωcοίατο,

the contrast between the continuity of cέλμαcιν ναῶν[26] (with long final syllable) and the break after ἄλλοce are noteworthy.[27]

The practice of Euripides seems to be the same. The ghost of Polydorus in *Hecuba* begins (1f):

> Ἥκω νεκρῶν κευθμῶνα καὶ cκότου πύλαc
> λιπών,

with a long final syllable at the end of the verse;[28] and a little later when he says (8f)

> ὃc τήν⟨δ'⟩ ἀρίcτην Χερcονηcίαν πλάκα
> cπείρει,

no break is wanted, since cπείρει contains no surprise, and the final syllable of πλάκα is evidently lengthened by the double consonant that follows.[29] As Hecuba approaches he makes good use of hiatus in two consecutive verses (52f):[30]

> γεραιᾷ δ' ἐκποδὼν χωρήcομαι
> Ἑκάβῃ· περᾷ γὰρ ἥδ' ὑπὸ cκηνῆc πόδα
> Ἀγαμέμνονοc . . .

In the scene that follows, Polyxena produces an effective break at the end of verses with final short syllables:

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[25] *Cf.* Aesch. *PV* 226, *Supp.* 326, *Cho.* 267, *Eum.* 470, and with hiatus 190.

[26] Modern editions, evidently with manuscript authority but without comment, include the final *nu* which makes the syllable long by position.

[27] Other good passages from the *Persae* which show a break after a short final syllable are 309–10, 335–36. In 399–405, after a contrast between two short final syllables and one long, there is an excellent example of hiatus; then in ἐλευθεροῦτε δέ — παῖδαc, the break after a short final syllable puts tremendous emphasis on the next word.

[28] *Cf.* 10, 13, 30, 35, 45, and Soph. *Phil.* 1, 9, 13, 35, 58, 77.

[29] *Cf.* Soph. *Phil.* 243.

[30] *Cf.* in Hecuba's speeches 276, 284, 289, 340, 387. There are also some good examples in her appeals to Odysseus, 286, 385.

351   ἔπειτ' ἐθρέφθην ἐλπίδων καλῶν ὕπο
       βαςιλεῦςι νύμφη,

377   θανὼν δ' ἂν εἴη μᾶλλον εὐτυχέςτεροc
       ἢ ζῶν.

On each occasion the break is the more noteworthy because a series of long final syllables has preceded, 346–50, 369–76. Odysseus has long final syllables, except at the end of a sentence or clause, and only at the end of the scene does he make a break at the end of a verse (394f):

       ἅλις κόρης cῆς θάνατος, οὐ προςοιςτέος
       ἄλλος πρὸς ἄλλῳ.

Is this slight hesitancy of speech the first hint that he gives of human feeling?[31]

The messenger in *Iphigenia in Tauris* is equally sparing in his use of short final syllables, and when he has one the effect is noticeable,[32] as in:

1331   Ἀγαμέμνονος παῖς, ὡς ἀπόρρητον φλόγα
       θύουςα . . .

1342   φόβῳ δ' ἃ μὴ χρῆν εἰςορᾶν καθήμεθα
       ςιγῇ.

A longer and more detailed analysis might reveal further subtleties, but enough evidence has been offered to suggest some definite conclusions; if a word ends in a short syllable, where a long syllable would be more normal and more strictly in keeping with the demands of the metre, this seems to be a way of telling the actor that he should make a break and perhaps put some special emphasis on the

[31] Cf. the hesitancy of Odysseus in Soph. *Phil.* 79–80, where an actor might give the impression that he was not quite sure how to deal with Neoptolemus:

       ἔξοιδα, παῖ, φύcει cε μὴ πεφυκότα
       τοιαῦτα φωνεῖν μηδὲ τεχνᾶcθαι κακά.

Similarly in 83. Neoptolemus shows no such hesitancy in his speech.

[32] Cf. also 1337, 1369 (hiatus), 1385, 1397 and 1399 (both with hiatus). Examples from comedy are easily found. Many good instances occur in Ar. *Ran.* 830–94, as well as in the trochaic tetrameters of 905–91—with Aeschylus and Euripides supplying some of the best examples. See also Men. *Epitrep.* 94–176. The comic effect intended by Eupolis (fr.73 [K.]) in

       οὐ γὰρ ἀλλὰ προ-
       βούλευμα βαςτάζουςι τῆς πόλεως μέγα

is surely the greater because προ- is a short syllable and the actor cannot help stopping in the middle of the word.

word that follows. In spoken verse the words themselves should be sufficient guide to the actor. In choral lyric the melody would help to show how the words should be phrased, but if there is to be variation in phrasing or dynamics between one strophe and another, the instructions should be contained in the words.

Music is more than a pattern of longs and shorts combined with highs and lows in a system of harmony. I venture to say that Pindar, like ourselves, felt that there must also be rhythmic movement and dynamic variation before there could be music, and that some instructions to his performers lie hidden in his verse if we are bold enough to search for them; and that if we are content with the current system of metrical analysis, we are making too little effort to understand and appreciate his art. An effort of our musical imagination is necessary if we are to discover his purposes, and it will be best to take the easier questions before the difficult ones.

A passage from *Pythian III* was chosen[33] to show that a metrical pattern like

$$-\cup---\cup---\cup\cup-\cup\cup--\cup\cup-\cup\cup$$

seems to mean

♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ⸗ | ♩ ♩ ♩ | ♩ ♩ ♩ |

or that $-\cup\cup---\cup\underset{\smile}{\cup}-\cup\cup-\cup\cup$ means

♩ ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩⸗| ♩ ♩ ♩ | ♩ ♩ ♩ |

If we look at the third epode of *Olympian III*:

εὐcεβεῖ γνώμᾳ φυλάccοντεc μακάρων τελετάc.
εἰ δ' ἀριcτεύει μὲν ὕδωρ, κτεάνων δὲ
χρυcὸc αἰδοιέcτατοc,
νῦν δὲ πρὸc ἐcχατιὰν . . .

we might think that after μακάρων τελετάc ($-\cup\cup-$) and αἰδοιέcτατοc ($---\cup-$) there could be a full stop, a real pause of indefinite length. But this cannot be right, because in the other epodes, though there is word division at the same point, there is no suggestion of a full close. This does not mean that there can be no break or rest; indeed, if there is no rest, there is a difficult change of rhythm, with dactylic changing to anapaestic movement:

♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩

On the principle that Pindar's odes were not meant for professional singers,[34] it is likely that he intended the easier alternative:

♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ₋ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩

It was not for no reason, surely, that he made the word division at the same point in each epode, and in epodes α and β as well as γ a rest of two *chronoi* (a half note in 4/4 time) would be appropriate for the singers; the orchestra could sound a note during the rest, the dancers could take a step, and there would be no break in the rhythm. Likewise at χρυcόc αἰδοιέcτατοc, νῦν δὲ πρὸc we may suppose that

—∪———∪——∪∪

means ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ₋ | ♩ ♩ ♩ |.

The same solution is surely right in *Olympian VI*, when dactylic movement ends catalectically:

Χρυcέαc ὑποcτάcαντεc εὐτειχεῖ προθύρῳ θαλάμου
κίοναc ὡc ὅτε θαητὸν μέγαρον
πάξομεν· . . .

i.e. ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ₋|
♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ₋|
♩ ♩ ♩ | . . .

The break (not a pause!) before the triumphant word πάξομεν is appropriate and effective, as before Σωcτράτου υἱόc in the antistrophe. Other similar examples, where a rest is effective as emphasizing the word that follows, can be found in the epode of *Olympian VI*, in the strophe of *Olympian XI*, *Pythian IV* and *Nemean V*, where, in the first strophe, the syllable before the break is short, so that the rest is longer:

ἀγάλματ' ἐπ' αὐτᾶc βαθμίδοc ἑcταότ'

♩ ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♪ ₋ | ♩ ♩ ♩ |

I propose to use the term *catalexis* to describe this common feature

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[34] In [Arist.] *Prob.* 19.15 we are told that earlier dithyrambs, unlike those of later times, were antistrophic: αἴτιον δὲ ὅτι τὸ παλαιὸν οἱ ἐλεύθεροι ἐχόρευον αὐτοί· πολλοὺc οὖν ἀγωνιcτικῶc ᾄδειν χαλεπὸν ἦν, ὥcτε ἐναρμόνια μέλη ἐνῇδον. μεταβάλλειν γὰρ πολλὰc μεταβολὰc τῷ ἑνὶ ῥᾷον ἢ τοῖc πολλοῖc, καὶ τῷ ἀγωνιcτῇ ἢ τοῖc τὸ ἦθοc φυλάττουcιν. διὸ ἁπλούcτερα ἐποίουν αὐτοῖc τὰ μέλη. ἡ δὲ ἀντίcτροφοc ἁπλοῦν· εἰc ῥυθμὸc γάρ ἐcτι καὶ ἑνὶ μετρεῖται.

of dactylo-epitrite verse, calling it dactylic catalexis in this form,
♩ ♩ ♩ | ♩ ♩ ♩ | ♩ 𝄽 | (sometimes with final short syllable, | ♩ 𝄾 𝄽 |),
and epitrite catalexis when it takes this form, ♩ ♩ | ♩ 𝄽 | (or
♩ ♩ | ♩ 𝄾 𝄽).[35]

When a transition is made from dactylic movement to epitrite (or from epitrite to dactylic) without *catalexis*, there can be no such rest, as, for example, in the strophe of *Olympian III*, where the singers continue without a rest as they sing:

Τυνδαρίδαις τε φιλοξείνοις ἁδεῖν καλλιπλοκάμῳ θ᾽ Ἑλένᾳ κλει-
νὰν Ἀκράγαντα γεραίρων εὔχομαι,[36] Θήρωνος Ὀλυμπιονίκαν

♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ |
♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ |

The final syllable of the hemiepes, however, is often short, whether followed by epitrite or further dactylic movement as in *Olympian VIII* in the first strophe ἵνα μάντιες ἄνδρες ἐμπύροις, and in the first epode Ζηνὶ γενεθλίῳ· ὃς ςὲ μὲν Νεμέᾳ πρόφατον. Often too the final syllable of the non-catalectic epitrite is short, as in *Isthmian II*, first antistrophe,

ἀργυρωθεῖςαι πρόςωπα μαλθακόφωνοι ἀοιδαί,

and *Pythian IV*, fourth epode,

βέλος Ἀρτέμιδος θήρευςε κραιπνόν, ἐξ ἀνικάτου φαρέτρας.[37]

In these passages the short syllable comes before a word division,

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[35] In the Olympian dactylo-epitrite odes alone the following examples of *catalexis* may be noted, in some strophes and epodes 'with short final syllable' or with hiatus before the break (the references are to the first strophe or first epode):
Dactylic catalexis: Ol. 3.11, 14; 6.1, 2, 15, 16, 19; 7.1, 4; 8.16, 17; 11.2, 3, 15; 12.1, 2, 4.
Epitrite catalexis: Ol. 3.4, 12, 13; 6.18; 7.19; 8.4, 5, 15, 17, 20; 11.5, 16, 17; 12.3.

[36] In the Snell–Maehler edition "finis periodi ('pausa')" is marked after εὔχομαι, where word division is constant throughout the ode, but a rest or pause at this place would break the rhythm and is surely inacceptable; the singers might take a quick 'catch breath' there, but in the third strophe the words Βορέα ψυχροῦ warn them clearly that there cannot be a break. Line-division in modern printed editions is always artificial and unsatisfactory, since it is impossible to avoid dividing some words between two lines, and it would really be more proper, though it would offend conventional taste, to print the poems without line division, like music.

[37] The pattern of the second example, —∪∪———∪—∪ is much more common than that of the first: —∪———∪—∪. It has in fact been doubted whether the first pattern was admitted by Pindar. At Pyth. 4.180, where the codices read:

ἀμφὶ Παγγαίου θέμεθλα ναιετάοντες ἔβαν,

and a short rest, even if not specially appropriate, would be possible. But there is not always a word division after these short syllables, so that the easy solution which has been suggested in passages considered so far is not always possible. Sometimes a way might be found of taking a rest *before* instead of *after* the short syllable, as in *Olympian 7.78* ἴcταται Τιρυνθίων ἀρχαγέτᾳ, which could be sung:

$$\text{♩ ♩ | ♩ ξ ♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ | ♩ ...,}$$

or *Olympian 8.20–21* ἐξένεπε κρατέων πάλᾳ δολιχήρετμον, which could be sung:

$$\text{♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ξ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ...}$$

or *Isthmian 1.2* πρᾶγμα καὶ ἀcχολίαc ὑπέρτερον, which could be sung:

$$\text{♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ξ ♩ | ♩ ♩ ♩ | ...}$$

One might even go so far as to suggest that *Olympian 8.17* Ἀλκιμέδοντα δὲ πὰρ Κρόνου λόφῳ was sung:

$$\text{♩ ♩ ♩ | ♩ ♩ ♩ | ξ ♩ ♩ | ♩ ♩ | ♩ ...,}$$

or *Olympian 6.5* βωμῷ τε μαντείῳ ταμίαc Διὸc ἐν Πίcᾳ, was sung:

$$\text{♩ | ♩ ♩ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ξ ♩ ♩ | ♩ ...}$$

Variations of this expedient can be applied to other passages, sometimes with results that are rhythmically quite attractive, but the opening phrase of *Nemean V* warns us that there is sometimes no way of finding a place for a rest: Οὐκ ἀνδριαντοποιόc εἰμ' ... This looks and sounds like a straightforward trochaic or iambic figure, and unless the audience were warned by 'program notes' they would not suspect that —∪—∪ was a substitute for —∪——. It is the same with the opening of *Nemean I*, Ἄμπνευμα cεμνὸν Ἀλφεοῦ, where there is a word division after —∪—∪. But the epitrite figure, —∪——, seems clear enough in subsequent antistophe and strophe in both odes:

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modern editors have generally followed the judgement of Boeckh in his *Notae Criticae* (p.460): "θέμεθλα Pindarus scribere non poterat, quum liceret θεμέθλοιc, quod reposui haud cunctanter." He keeps πρόcωπα in *Isth.* 2, but suggests tentatively that πρόcωπον might be read. In Bacchylides, on the other hand, we find (5.31–32)

μυρία πάντᾳ κέλευθοc ὑμετέραν ἀρετάν,

and the pattern is repeated in epodes 4 and 5. *Cf.* Maas, *Greek Metre* §48, with the note added by Lloyd-Jones.

ἐκ δὲ Κρόνου καὶ Ζηνός (Nem. 5.7),   εἰ δ' ὄλβον ἦ χειρῶν (5.18),

ἀρχαὶ δὲ βέβληνται θεῶν (Nem. 1.8),   ἔσταν δ' ἐπ' αὐλείαις θύραις (1.19).

What, then, did Pindar expect his performers to do? Postpone the appearance of epitrite rhythm until the antistrophe? And is there a real difference between the first strophe and antistrophe? But why present them with such a puzzle? One might even ask why he did not write ὦ σεμνὸν ἄμπνευμ' Ἀλφεοῦ?

Unless we are prepared to say that Pindar is deliberately avoiding response between strophe and antistrophe or that the *anceps* has a recognized intermediate value between long and short (with the undesirable rhythmic consequences that this solution involves), we are obliged to say that in these passages a trochee is equal in time value to a spondee. And we can admit at once that (in musical terms) this need present no difficulty—not, at least, to modern performers, if they are told clearly, in print, what is expected of them. We must, therefore, try to explain, in a musical notation that we understand, what demands Pindar may be making of his singers. If, for example, they are to sing the opening of *Olympian III*:

$$\text{—}\cup\cup\text{ —}\cup\cup\text{ — — —}\cup\text{ — — —}\cup\cup$$

they can be asked to sing:

$$\frac{4}{4}\ \text{♩ ♪ ♪} \mid \text{♩ ♪ ♪} \mid \text{♩ ♩} \mid \frac{7}{4}\ \text{♩ ♩ ♩ ♩} \mid \frac{4}{4}\ \text{♩ ♪ ♪} \mid$$

This will preserve the same value of long and short notes (♩ and ♪) throughout, and the spondee will keep the ratio of 4:3 in relation to the trochee. But they will find it much easier to sing:

$$\frac{4}{4}\ \text{♩ ♪ ♪} \mid \text{♩ ♪ ♪} \mid \text{♩ ♩} \mid \overbrace{\text{♩ ♪ ♩}}^{3} \mid \text{♩ ♩} \mid \text{♩ ♪ ♪} \mid$$

What they are doing now is to make the trochee equivalent in time value to the spondee, although in singing triplets they do not trouble to ask themselves what exactly is the relation of each note in the triplet to the notes in the preceding measure.[38]

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[38] *Cf.* the good remarks of Émile Martin (an experienced choirmaster), *op.cit.* (*supra* n.7) 42. Metricians of an older generation spoke of 'irrational spondees' when they appeared to be equal in time value to a trochee, saying they were spoken 'faster' than regular spondees —if four *chronoi* had to be compressed into three, a short syllable in an 'irrational' spondee would take only three-quarters of a *chronos*. *Cf.* P. Masquéray, *Traité de métrique grecque* (Paris 1899) 10.

Or suppose they are to sing the second strophe of *Nemean I*, which begins:

— —◡— — —◡— — —◡— — —◡◡ —◡◡ —

should they sing:

(a) $\frac{7}{4}$ ♩ | ♩ ♩ ♩ ♩ | ♩ ♩ ♩ ♩ | ♩ ♩ ♩ ♩ | $\frac{4}{4}$ ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ , or

(b) $\frac{4}{4}$ ♩ | $\overset{3}{♩♩♩}$ | ♩ ♩ | $\overset{3}{♩♩♩}$ | ♩ ♩ | $\overset{3}{♩♩♩}$ | ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | ♩ ?[39]

The advantage of (b) is that it gives the singer the chance to substitute a trochee for a spondee (a trochaic dipody instead of an epitrite, as in the first strophe of the ode), without disturbing the rhythmic pattern;

he can sing $\overset{3}{♩♩♩}$ instead of ♩ ♩ (deliberately or by mistake) and still not be out of time. And it will not matter whether the dancers know in advance which version of the 'epitrite' or the '*anceps*' the singers will be singing in any strophe, —◡—— or —◡—◡, because they will be in time either way. And if the singers are dancing themselves, they can dance two even steps, a 'spondee', while they sing a 'trochee', and still maintain time, playing 'two against three', feet against voice, just as a pianist learns to play 'two against three', right hand against left.[40]

[39] One could produce the same effect by writing:

(c) $\frac{6}{8}$ ♩ | ♩♪ $\underset{2}{♩♩}$ | ♩♪ $\underset{2}{♩♩}$ | ♩♪ $\underset{2}{♩♩}$ | $\frac{4}{4}$ ♩♩♩ | ♩ ♩ ♩ | ,

but musical editors, as well as performers, would probably prefer (b); musicians generally are more at home with the convention of triplets (three notes corresponding to two or four) than with duplets or quadruplets (two or four corresponding to three). In the language of metrics, it is a question of whether the spondee is 'speeded up' to correspond with the trochee or the trochee is 'slowed down' to correspond with the spondee. When true trochaic rhythm (with no sign of an epitrite except at the end of a colon) alternates with dactylic, there is the other possibility of 'speeding up' the trochee so that two trochees correspond to one dactyl. Thus Alcman's εὕδουσι δ' ὀρέων κορυφαί τε καὶ φάραγγες might be presented as:

$\frac{4}{4}$ ♩ ♩ | ♩ ♩ ♩ | ♩ ♩ ♩ | $\overset{3}{♩♩}·\overset{3}{♩♩}$ ♩ ♩ | $\overset{3}{♩♩♩}$ _ |

[40] Is this perhaps what Aristoxenus had in mind when he wrote *Rhythm*. 10 [W.], 292 [M.], p.22 [Pighi]): νοητέον δὲ χωρὶς τά τε τὴν τοῦ ποδὸς δύναμιν φυλάσσοντα σημεῖα καὶ τὰς ὑπὸ τῆς ῥυθμοποιίας γινομένας διαιρέσεις· καὶ προσθετέον δὲ τοῖς εἰρημένοις, ὅτι τὰ μὲν ἑκάστου ποδὸς σημεῖα διαμένει ἴσα ὄντα καὶ τῷ ἀριθμῷ καὶ τῷ μεγέθει, αἱ δ' ὑπὸ τῆς ῥυθμοποιίας γινόμεναι διαιρέσεις πολλὴν λαμβάνουσι ποικιλίαν. ἔσται δὲ τοῦτο καὶ ἐν τοῖς ἔπειτα φανερόν. Unluckily τὰ ἔπειτα are lost. But he seems to be telling us that some performers may have to play triplets (trochees) while the conductor marks four beats (dactylic time), a situation with which modern orchestral players are quite familiar.

What is perhaps more important for our purpose is that Aristoxenus recognizes and describes clearly the different kind of *metabole* which takes place in version (a) and version (b). He says that one foot may differ from another in length (*megethos*) ὅταν τὰ μεγέθη τῶν ποδῶν, ἃ κατέχουcιν οἱ πόδεc, ἄνιcα ᾖ, or in rhythmic type (*genos*), when the ratio is different, ὅταν οἱ λόγοι διαφέρωcιν ἀλλήλων οἱ τῶν ποδῶν, when, for example, one foot has the 2:1 ratio, another the 2:2. Or they may differ in *diaeresis*, ὅταν τὸ αὐτὸ μέγεθοc εἰc ἄνιcα μέρη διαιρεθῇ (*Rhythm.* 11 [W.], 298–99 [M.], pp. 23–24 [Pighi]). The difference, therefore, may be in both respects, in arithmetical ratio and length, or in one of these respects, ἤτοι κατὰ ἀμφότερα, κατά τε τὸν ἀριθμὸν καὶ κατὰ τὰ μεγέθη, ἢ κατὰ θάτερα. He means that when the ratio changes from 2:2 to 2:1, from dactylic to trochaic, the trochee may occupy the same length of time (if the change is κατὰ θάτερα) or a different length of time (if the change is κατὰ ἀμφότερα). And it is the change 'in one respect' which seems to be demanded by Pindar's practice, when trochee is substituted for spondee or dactyl, ♩ ♩ ♩ (³) instead of ♩ ♩ or

♩ ♩ ♩.

It follows, then, that the assumption which was suggested in the first paragraph of this article—that dactylo-epitrite is an alternation of 4-time and 3-time (or 4-time and 7-time)—is not correct, and it may be better to describe it, in modern musical terms, as written in 4-time with a liberal use of triplets. It also becomes unnecessary to use the term epitrite, which is discouraged by Aristoxenus—although, like Aristoxenus, we cannot fail to notice individual epitrite phrases. One can say now that the rhythm uses spondees, dactyls, and trochees, and that the trochee differs from the other two not in *megethos* but only in *logos* or *arithmos*. And at suitable places there will be *catalexis*, when the singer is silent for one or more *chronoi*, recovering his breath while his feet continue to move.

Under this system it becomes unnecessary to make any use of the term *syllaba anceps*, though one must notice that a strophe may begin with an introductory note, on the upbeat, the length of which is not important, and that the final syllable of a period (when the dancers come to a standstill) may be *brevis, longior, longa*, or *longissima* (*ad libitum*). Within a period one should think not so much in terms of individual syllables but of feet and metra, and one should concern oneself not with the absolute length of a syllable (which will certainly

have varied as the music developed, with *tempo rubato*), but with the
2:1 ratio of long syllable to short, which in theory at least was a con-
stant ratio and was the rock on which Greek rhythmic theory was
built. It was because of this principle, and because he could not accept
the 4:3 ratio as rhythmic, that Aristoxenus refused to recognize the
epitrite, despite the evidence of his ears. Rhythmic principle de-
manded that the epitrite, like the *anceps*, had to be explained away.
It seems to me, at least, that Pindar's music is easier to understand
without them, and that the demise of the *anceps* demands no
lamentation.

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