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## Musical evidence regarding trochaic inversion

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### Abstract

This study investigates an unresolved issue in poetic metrics – the trochaic inversion – the apparent substitution of a trochaic foot in place of an iambic foot in an otherwise iambic line of verse. Various theories have been proposed to explain this metrical variation, including specific metrical units, groupings of beats and offbeats, and constrained definitions of metrical units via concepts such as stress maxima. By positing a structural comparison between the verse and music of set poetry, the current project attempts to evaluate theories of poetic metrics using a new empirical methodology. Specifically, musical settings of iambic poetry with trochaic inversion are examined. Our analysis shows that the musical settings predicted from various prevalent theories do not map neatly onto the actual musical settings, which suggests that they do not adequately describe the actual rhythmic effect of the trochaic inversion. The music instead suggests that we regard this metrical pattern not as a trochee in place of an iamb, but rather as a unary stressed foot followed by an anapest.

Keywords: *meter; music; text-setting; trochaic reversal*

### 1 Introduction

The goal of this article is to evaluate theories of stress and poetic meter by searching for empirical evidence from a new source, music, specifically from the setting of texts to musical tunes, following a methodology established by Halle and Lerdahl (1993). This approach has implications felt most heavily in the area of sung and recited verse, where the decision to place stress can reflect a reader's (and perhaps a poet's) intuitions about the rhythm and *music* of the written line.

Iambic pentameter is commonly understood as a meter in which lines prototypically consist of five feet, each containing a weak syllable (x) followed by a strong syllable (X). A significant unresolved issue in metrical theory is the interpretation of the 'trochaic inversion',<sup>1</sup> which is an apparent deviation from the regular iambic pattern of feet. Generally described as the substitution of the trochaic foot (X x) in place of the iambic foot (x X), 'trochaic inversions' are especially common at the beginning of a line. An example of this type of line is the word 'gather' found in Robert Herrick's poem, 'To the Virgins to Make Much of Time' (See Figure 1).

Although this is a deviation from the predicted iambic norm, it is still considered to be metrical (as will be demonstrated later by various accounts). The reader might ask: how much metrical variation is allowable before it stops being metrical poetry? Susanne Woods (1984: 11) says that although the concept of



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X	x	x		X	x		X		x	X
Gather		ye		rose -	buds		while		ye	may

*Figure 1* The opening line to Herrick's 'To the Virgins to Make Much of Time' (in Jorgens, 1982) features an inversion of the conventional iambic stress pattern in the first two syllables. Scansion added by the authors to demonstrate strong (X) and weak (x) syllables

stress in poetry is difficult to define, there is an intuitive sense for metricality – some lines just *feel* more right than others. This is a cloudy assertion that deserves further empirical analysis.

The current investigation will aim to elucidate this issue by first demonstrating the methodology by which we can evaluate interpretations, and then demonstrating the inadequacies of current theories in interpreting it. Consequently, an interpretation arises from the musical evidence that is wholly different from the traditional perspectives.

## 2 Musical text-setting as a method for investigating trochaic inversion

Music and poetry share a common foundation in that they are both 'structured temporal arts, depending on some kind of recurrence for the perception of their organization' (Jorgens, 1982: 18). The insight pursued here is that which is elaborated by Dell and Halle (2005), who view text-setting as a mediating interaction between the separable components of text and tune. That is, examination of the song from the perspectives of text and tune should shed light on the meter that produced the setting. Specifically, this article seeks to use this insight to unpack the metrical structure of lines whose syllable structure deviates from that which is predicted from the meter. The investigation of trochaic inversion will henceforth be evaluated using musical text-setting as a standard to judge different interpretations of this variant.

## 3 How iambic poetry is set to music

The musical setting in common (4/4) time of iambic poetry is relatively easy to understand. This time signature, like the iambic meter, is one where rhythm is organized by a successive binary pattern of strong and weak beats. Generally, each syllable is assigned to one quarter note (i.e. one beat), and the musical measure is divided up with strong syllables aligned with strong rhythmic positions in the music, as in Figure 2.

For this time signature (one where the subdivision of notes is 'duple' meter), all odd numbered syllables 1, 3, 5, 7, etc. are considered short and all even numbered notes 2, 4, 6, 8, etc. are long<sup>2</sup> (adapted from Houle, 1987: 81). This aligns the initial foot at the quarter-note position before the first full measure. Weak and strong positions then predictably alternate in this simple setting.



Figure 2 A setting of Tennyson's 'I Have Led Her Home' (Bush, 1989: 135–9). Scansion and syllable counting is added by the authors to show that the weak (odd-numbered) syllables in the line are aligned with even-numbered weak beats of the measures in the music

#### 4 How trochaic inversion is set to music

Given the hypothesized relation between meter and music in song, the 'reversal' of the iambic foot raises questions as to how to properly align the first syllable in the musical score (into an odd-numbered position) in order to maintain the relationship between strong syllables and beats. A straight reversal of an iambic foot would put the strong first syllable in a weak even-numbered rhythm position (beat 4 of the incomplete opening measure); observationally, this is incorrect – the strong syllable must be moved to align itself with the strong beats in the musical score (to either beat 1 or beat 3 of a four-beat measure) if the normal 4/4 rhythm is to be maintained.

Composers typically use two kinds of strategies to move the line-initial strong syllable into a strong beat position. They either occupy the weak-syllable position with a rest, as shown in Figure 3(a) or they extend the previous note into the space where the weak initial syllable is otherwise expected, as shown in Figure 3(b).



Figure 3 A setting of Tennyson's *I Have Led Her Home* (Bush, 1989: 135–9). Brackets are added by the authors to highlight the composer's use of a rest or extended note to occupy the space before a line with initial trochaic inversion

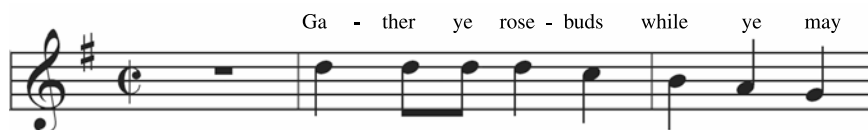


Figure 4 A setting of Robert Herrick's 'To the Virgins to Make Much of Time' (Jorgens, 1982: 34)

When an iambic poem begins with a line with initial trochaic inversion, no incomplete measure is needed, as the opening measure can begin immediately with the line-initial strong syllable aligned with the opening beat of the music, as seen in Figure 4.

Here again, the stressed first syllable of 'gather' is set to a strong position in the music. It is this basic observation on the textsetting of English songs that we wish to relate to metrical scansion. Therefore, settings such as those seen in Figures 3 and 4 above will be considered with regard to various metrical interpretations that have been proposed for trochaic inversion.

## 5 Approaches to the trochaic inversion

In this section we will review several theories of metrical scansion, and evaluate each of them on the basis of how they interpret (line-initial) trochaic inversions, and how these interpretations map against the setting of this pattern to music observed above in Figures 3 and 4. This type of prediction will attempt to take into account how each theory may address syllabic weight in terms of (relative) stress and timing.

### 5.1 The traditional view

The traditional interpretation of lines such as 'Gather ye rose-buds ...' has a trochee substituting in place of an iamb in a one-for-one foot trade-off. 'Under certain conditions a different foot maybe "substituted" for the prevailing foot in a line. The most common substitution in iambic verse is a trochee-for-iamb switch in the first foot of the line' (Steele, 1999: 61).

#### 5.1.1 Setting trochaic reversals according to the traditional view

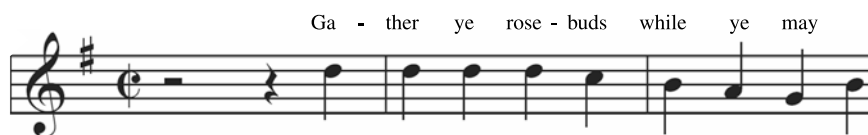
The traditional view changes only the first foot of the line while leaving the remaining feet unchanged. Therefore, the musical setting projected from this view should correspondingly maintain the setting of the second and subsequent feet as predicted from a normal iambic line (as in Figure 2). The remaining task is to determine the setting of the first two syllables. The traditional perspective might have us maintain the positions of syllables 1 and 2 in the music, thereby leaving

the typical iambic setting intact; without regard to stress, the first syllable in a line with trochaic inversion would be set temporally in the same position since it occupies the same syllable slot. The setting predicted from this perspective would be as in Figure 5.

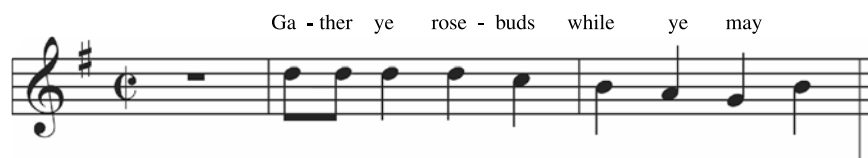
Predictably, the syllable stress no longer maps onto the musical rhythm stress, as the strong first syllable is in the weak fourth quarter note of the first measure. In the spirit of preserving the relationship between music and meter using Figure 4 as a guide, this prediction seems to fall short of our goal.

There are potentially more liberal settings of the traditional perspective that likewise preserve the musical score spacing of the first foot. That is to say, there are other ways of fleshing out the space between beat 4 of the incomplete first measure, and the first quarter note of the second measure (the first full measure). One potential way of working within this constraint is to begin the line at the strong beat position (normally for syllable 2 in an iambic line) and complete the first foot before the normally placed second foot would begin, thus allowing one quarter-note space allotted for both syllables of the reversed first foot. This can be accomplished by speeding up the rhythm for the trochee so that each syllable takes up one eighth-note's worth of time, instead of the usual quarter-note's worth. The predicted musical setting is shown in Figure 6.

Like Figure 5, this prediction does not match to the composer's setting of the music observed in Figure 4. It seems, rather, that composers prioritize the rhythmic pulse of the strong syllables; they are rarely compromised in time by being assigned to a shorter note.



*Figure 5* A setting of Robert Herrick's 'To the Virgins to Make Much of Time' (in Jorgens, 1982) altered by the authors. This setting reflects a one-to-one correspondence of syllables to notes that appear in a typical iambic setting such as Figure 2



*Figure 6* A setting of Robert Herrick's 'To the Virgins to Make Much of Time' (in Jorgens, 1982) altered by the authors. This setting reflects the shift of the initial strong syllable away from the weak beat position in the music. It represents the traditional view in that only the first foot is altered; all subsequent feet are set according to the typical strategy seen in Figure 2

## 5.2 Derek Attridge: Beats and offbeats

Attridge addresses the rhythmic properties of poetic lines without ever appealing to the notion of a foot. Instead, he works within a system of beats and offbeats, which is understandably conducive to our evaluation using music. In *Meter and Meaning* (Carper and Attridge, 2003), Attridge acknowledges the influence of the spoken accent on the meaning of a line. An example of the attention to detail paid in Attridge's theory is the implied offbeat, which he defines as 'an offbeat that occurs where there is no word or part of a word that occupies the space between two beats' (Carper and Attridge, 2003: 35). Recognizing this subtle pause felt in the reading of a line, the implied offbeat is represented by 'ô' in the scansion of Figure 7. The example line by Herrick is scanned by Attridge as in Figure 8.

In Figures 7 and 8 above, 'B's indicate strong beats, 'o's indicate offbeats, and '-o-' is the double offbeat, reflective of our tendency to quickly run over these syllables in a hurried fashion (as discussed in Keppel-Jones, 2001, and illustrated overtly in the musical setting with eighth-notes for these syllables).

Another change illustrated in the musical settings is seen at the very beginning of a line that starts with a trochaic inversion; the space normally occupied by a weak syllable is replaced with a rest (especially at the onset of a poem) or an extension of the note assigned to the last syllable in the previous line. A musical rest intuitively would correspond to Attridge's implied offbeat, since it is a chunk of rhythmic time with no associated syllable. The current perspective of using music to evaluate scansion challenges Attridge's system because his rules fail to accommodate any of these line-initial changes. That is, there is no way to accommodate a line-initial *implied offbeat* since there is (by definition) no beat to its left, so it thus fails to satisfy the criteria that Attridge sets forth for its use. It should be noted that the poem-initial rest seen at the start of the musical settings might just as well be overlooked in the scansion, since there is no clearly objective way of identifying a pause before the citation has begun. For all subsequent trochaic inversions, however, the rest acknowledged in the music cannot be recognized by Attridge's system. The solution to this discrepancy could be to either relax the criteria for the implied offbeat, or to recognize the continuity of

o B - o - Bô B o  
Was **battered** on **one** **knuckle**

Figure 7 Scansion of Theodore Roethke's 'My Papa's Waltz' provided by Carper and Attridge (2003: 114), which demonstrates the rhythmic alterations of the double offbeat (- o -) and the implied offbeat (ô)

B - o - B o B o B  
Gather ye rosebuds while ye may

Figure 8 Scansion of Robert Herrick's 'To the Virgins to Make Much of Time' provided by Carper and Attridge (2003: 40), which uses the double offbeat (- o -) to represent the rhythm of the two weak syllables which follow the initial strong syllable

beats across the line boundary (in which case a preceding line-final beat before the line-initial pause *would* help satisfy Attridge's criteria for the implied offbeat). Musical settings may tend to continue the rhythmic pulse across lines, particularly if melody phrasing doesn't suit the clear delineation of lines. The strategy by which line boundaries should be recognized in scansion is not within the scope of the current discussion, but the observation remains that there is a discrepancy between the rhythm recognized by composers and that recognized by Attridge.

### 5.2.1 *Setting using Attridge's view*

Attridge's scansion can neatly map onto settings such as Figure 4. Because his scansion does not recognize feet, it has no need to meet the expectation of a weak syllable position (syllable, rest or preceding note extension) before the first full measure, as was seen in Figure 2. Like the actual setting (Figure 4), it begins with a stressed syllable, two quick syllables, a stressed syllable and then resumes an alteration of weak and strong syllables. The setting guided by Attridge's scansion would be as shown in Figure 9.

Because Attridge's scansion precludes the line-initial implied offbeat, it falls short of matching neatly with settings such as those shown in Figures 3(a) and 3(b), which acknowledge a missing line-initial syllable. Instead, a setting predicted from Attridge's scansion would move directly from the line-final strong syllable to the line-initial strong syllable (in the trochaic inversion) without any intervening extended note or rest. This scansion would predict the setting shown in Figure 10.

Problems with this setting include the unusual changing of a time signature for one measure within a line. A parallel analogy to poetic metrics would be to change the meter for only a portion (such as a foot) within a line (i.e. more or less, the traditional view), but this is not an explicit component of Attridge's theory.

Composers consistently include a rhythmic device (rest or note extension) to fill in the unoccupied weak space at the line-initial position in a line beginning with a trochaic inversion. In this respect, Attridge's account falls just short of what we would require for a scansion that would accurately predict the musical setting of a line. Modifying the theory in order to include a line-initial implied offbeat would allow a relatively direct encoding of the text to the music.

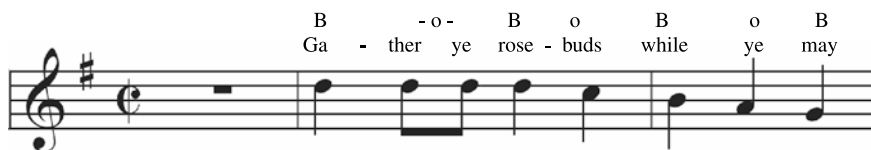


Figure 9 A setting of Robert Herrick's 'To the Virgins to Make Much of Time' (in Jorgens, 1982) provided by the authors, underneath the scansion provided by Carper and Attridge (2003: 40). Strong metrical beats align with strong musical beats, and the double offbeat is aligned with a pair of eighth notes



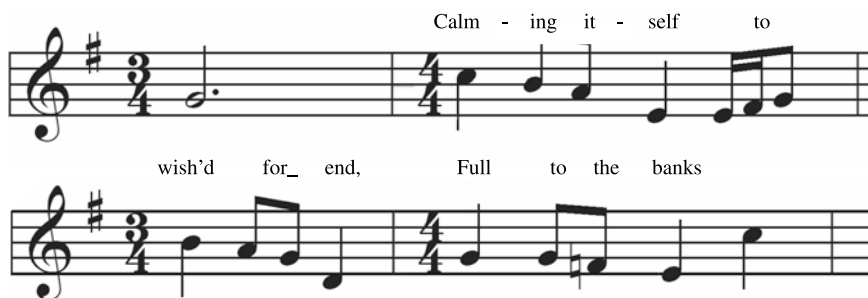


Figure 10 A setting of Tennyson's 'I Have Led Her Home' (Bush, 1989: 135–9) that has been altered by the authors to reflect Attridge's approach as elucidated in Carper and Attridge (2003). Specifically, the first measure of the second line of music has been shortened to three quarter notes instead of four, so as to not accommodate a line-initial weak syllable position prior to 'Full'

### 5.3 Fabb and Halle: Stress maxima

Fabb (2002a) builds on the generative metrics approach (Halle and Keyser, 1971, etc.), updating the theory to match current practice in the linguistic analysis of stress (e.g. Halle and Idsardi, 1995). By setting up a sequence of hierarchical gridlines, Fabb (2002a) explains the construction of a bracketed grid from the building blocks of syllables at the line level. Details about the rules that govern the grid can be found in Fabb (2002a, 2002b, 2003). An example of a line scanned with the bracketed grid is shown in Figure 11.

The appropriate comparison with other metrical theories considered here is the construction of gridlines 0 and 1. The line is partitioned into two-syllable chunks represented by asterisks, Gridline 0 is partitioned by a device that counts in a binary fashion, and the rightmost element of each group is projected onto gridline 1, thus ordinarily creating right-headed binary feet (i.e. iambs).

In Halle and Fabb's system, 'stress maxima' in the grid are located at asterisks corresponding to syllables 'bearing primary stress in a polysyllabic word (such as the second syllable in 'before') provided that it is preceded and followed in the same line by a syllable without primary lexical stress' (Fabb, 2003: 73).

Gridline 3	(						*	
Gridline 2	(		*			*	*(	
Gridline 1	(	*	*		(*	*	(	*
Gridline 0	(*	*	(*	*	(*	*	(*	*
	To	lie	before	us	like	a	land	of dreams

Figure 11 Scansion of Matthew Arnold's 'Dover Beach' provided by Fabb (2002b: 104) which demonstrates the bracketed grid.

### 5.3.1 Setting using Fabb's and Halle's view

Since stress maxima in the bracketed grid must be surrounded on both sides by non-maxima, Fabb says that trochaic inversion ‘exploits the fact that a stress maximum is not definable at the beginning of a line’ (Fabb, 2002a: 112). The outcome of this rule is a loophole through which the line-initial trochaic inversion is scanned as a plainly metrical iambic foot. The example line from Herrick would project to the bracketed grid as seen in Figure 12.

This scansion is the same as we would see for a prototypical iambic line: each foot is two syllables long with the rightward asterisk projected onto line 1. Accordingly, the music projected from this scansion would be the same as for the typical iambic line in Figure 2.

Predictably, the setting in Figure 13 disregards the stress on the first syllable, and thus falls short of adequately describing the metrical activity within the line as suggested by the actual musical setting in Figure 4.

Gath - er ye rose-buds while ye may  
 ) \* ) \* ) \* ) \* ) \* ) 0  
       \*      \*              \*              \* 1

This setting demonstrates a clear comparison between normal iambic lines (the first and third) and a line with trochaic inversion (the second). Feet in the typical lines occupy two quarter-notes of space each, with strong syllables on odd-numbered beats. The second line begins with no syllable corresponding to the initial weak beat. It begins at the odd beat, followed by two syllables hurried over the space corresponding to one weak syllable in the surrounding lines. With regard to foot-prosody, the first two feet of each line occupy the same amount of rhythmic space. Using the typical lines as a guide to interpret the trochaic inversion, the music creates divisions that yield the feet shown in Figure 15.

Under this perspective, the observation is now that feet in *all* lines occupy two quarter notes of space each, with strong syllables on odd-numbered beats. The feet involved in trochaic inversion project to the rest (or note extension), which takes the place of the expected first weak syllable and also the two syllables that are hurried over the space of one weak syllable that begins the second foot. The trochaic inversion can henceforth be interpreted as a unary foot followed by an anapestic foot.

Figure 14 A setting of Shakespeare's 'If Music Be the Food of Love' provided by Purcell (1659, in Roberts, 1995) with added line divisions and foot labels provided by the authors

	If	mu	sic	be
Normal iambic line	(x	X )	( x	X)
Trochaic inversion	(	X)	( x	x X)
	Plea	sures	in	vade

Figure 15 Scansion of the initial lines of verse 1 and 2 of Shakespeare's 'If Music Be the Food of Love' (1659, in Roberts, 1995) provided by the authors. The top line represents a normal iambic pattern and the bottom line represents a line with initial trochaic inversion. Metrical feet are contained within parentheses

## 7 Casting the new proposal in terms of existing elements

The unary foot is a line-shortening component because, all other factors being equal, it reduces the number of syllables in a line by one (Fabb, 2002a: 23). The anapest is a line-lengthening component because, all other factors being equal, it increases the number of syllables in a line by one. It is a conventional iambic substitution (Wallace, 1996: 6, 21), wherein the iambic rhythm is supervened on three syllables. 'The naturalness of the anapest derives, if for no other reason, from the structure of simple prepositional phrases' (Wallace, 1996: 6). Wallace goes on to say that although a trochaic substitution can accommodate this stress pattern, 'it is plainly simpler, and entirely natural, to use an anapest' (1996: 7).

The musical settings that correspond to the use of both line-shortening unary feet and the line-lengthening anapests correspond directly to what we see in trochaic inversion, as demonstrated in Figure 16. The top of Figure 16 shows a shortened line (missing an introductory weak syllable) beginning with the strong

(a) Short line

more he might, Beau ty bred his heart's de - light;

(b) Long line

And will he not come a - gain,

(c) Trochaic inversion

wish'd for\_ end, Full to the banks, close

Figure 16

(a) A Setting from Shakespeare's 'A Most Pleasant Ballad of Patient Grissel' (Duffin, 2004: 75); (b) A setting from Shakespeare's 'And Will He Not Come Again' (Duffin, 2004: 75); (c) A setting from Tennyson's 'I Have Led Her Home' (Bush, 1989: 135-9). Arrows and brackets provided by the authors to highlight the correspondence of separable rhythmic components of settings in (a) and (b), which come together to construct the setting of trochaic inversion in (c)

syllable set just as in the trochaic inversion. In the middle, the long line (with an extra weak syllable) has an anapest figure set the same as in the trochaic inversion. The line-shortening unary foot and line-lengthening anapestic foot are compatible iambic feet that together neatly describe the action going on inside the trochaic inversion. Each foot has a strong syllable on the rightward side of consecutive quarter-note spaces in the score.

This interpretation retains the essential iambic nature of the meter: the last element of a two-part foot is stressed. The typical iambic foot is weak–strong, the anapestic foot is weak–weak–strong, and the unary foot is simply a strong syllable. Although the unary foot can just as easily be called left-headed, the use of rhythmic space in the music suggests that it is more appropriate to consider it right-headed, since the single syllable is placed on the right side of the two quarter-note foot space. Conceptually, it is neater to describe it as right-headed since it maintains consistency across all feet, instead of having a few anomalous units interspersed within the poem.

## 8 Conclusion

Susanne Woods' emphasis on the reader's intuition for metricality (1984: 11) caused us to look closely at the trochaic inversion; it is a variation from the prototypical iambic line, yet it is still considered conventional English meter. Evidence from music musical textsetting shows us why this is the case; the iambs normally found in the first and second foot positions look like iambs with variation in the less-prominent left side. In short lines we see unary feet, in long lines we see anapests; in trochaic inversions, we see both. The basic pulse of rhythm is unchanged, so it flows naturally like a normal iambic line. This understanding of trochaic inversion accounts directly and straightforwardly for the setting of English texts to tunes, as observed in compositions by Purcell and others. It also makes objective predictions about musical textsetting that have shown to accord with composers' choices for reflecting meter in written music.

## 9 Final remarks

Predictably, there will be some who object to the proposal set forth in this article. Although the current interpretation is parsimonious in that all feet can be characterized as consistently right-headed and consistent in rhythmic weight (in terms of time), the casting of trochaic inversion as two separate components may call into question the likelihood that each would be so commonly used in trochaic inversion but less commonly in isolation. That is, for many poets we find trochaic inversion much more often than we find long lines or short lines. The prevalence of long and short lines is small; the intersection of *both* of these variants should

intuitively be even less common than each individual variant. This anomaly is deserving of attention, but may end up being addressed with the rather elementary observation that the combination of both elements yields the 10-syllable count found in typical lines iambic pentameter (or accordingly, eight syllables in tetrameter). Although Wallace purports that 'a line's number of syllables in no significant way determines its rhythm' (1996: 12), it may still be a simple artifact of compensation to add a syllable after one has been elided.

Another approach that recognizes the tendency for the unary foot and anapest to be grouped together is that their combination serves as one functional unit. The idea of the 'choriamb' (a four-syllable unit consisting of a stressed syllable, two weak syllables and a stressed syllable) is described by Keppel-Jones (2001), and is explored at positions within the line other than line-initial (these occurrences are rare compared to the line-initial position). While this concept capitalizes on the temporal link between the two units proposed in this article, it is seen by the authors as being unnecessary; it introduces a new rhythmic unit that is far different from all the others used in an iambic poem. The large amount of rhythmic time devoted to the choriamb (presumably four quarter-note spaces), as well as the lack of clear recognition of the pause in recitation fail to satisfy the requirements of rhythmic consistency of feet and the rhythmic feel of the recitation, respectively. Instead of the choriamb, the current approach advocates the interpretation of a line's scansion using metrical units of equal rhythmic space so that the basic idea of foot-prosody remains simple and consistent.

Whatever position is taken on the status of trochaic inversions, one should reasonably expect some sort of evidence to back it up. By reaching out to musical text-settings to provide this evidence, one conclusion stands out above the others. Perhaps by using another metric to evaluate trochaic inversion, another interpretation will prevail. By investigating the performance of recited poems, a pattern of rhythm may emerge from coarse rhythmic analysis of a sound waveform. Efforts are underway by Gordon and Large (2007) to use electrophysiological measures to gain insight on listeners' judgments and other behavioral reactions to various text-settings. Through whatever the medium, the stance taken by the authors of this article is that empirical evidence should be included in a discussion of poetic metrics.

This article presents an idea that hopefully shows some promise with regard to resolving problems in poetic metric. Clearly, we have not conducted a comprehensive review of musical settings; what is offered here is rather a kind of proof-of-concept. We would, of course, welcome and recommend a much more thorough review of musical text-settings of trochaic inversions beyond those we were able to find through our unsystematic search. Though by no means a conclusive, guaranteed method of producing scansion, we do believe that the use of music is a great potential source of elucidation of metricality, both in song and in poetry.

## Acknowledgements

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## Notes

- 1 Although there is no clear consensus on a proper name for this phenomenon, this article will attempt to use the name, 'trochaic inversion' for the sake of consistency to aid understanding.
- 2 For the purpose of retaining the original quotes throughout the article, 'long' will be understood as the semantic equivalent of 'stressed', 'strong', 'prominent' or 'beat'. 'Short' will be the same as 'unstressed', 'weak' or 'offbeat'.

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