

# IMPACT OF METRICAL PROSODY ON PERFORMANCES

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## ABSTRACT

This thesis is about testing Frederick Turner and Ernst Pöppel's claim that suggest metrical poem tends to measure three seconds in terms of psychological limit when it is performed aloud. The objective of the study is to present metrical poems as the new data to test their claim by using corpus analysis. Hereby, the researcher uses publicly available 28 read-aloud poems from poetryoutloud.org by using Praat to find the duration of each metrical line. The findings indicate that there are 18 English metrical poems with 314 lines in total, supported by metrical tree analysis, meanwhile there are 10 poems which are free verse and found that 1) most lines have iamb feet, 2) 10 of the metrical pattern of the poems are iambic pentameter, whereas others are in diverse meter, 3) there is no psychological limit on the duration of metrical lines in performance as the researcher only founds 62.73% that fit to the 3 seconds of temporal window based on the analysis in the corpus of 314 metrical lines. This study has shown what Frederick Turner and Ernst Pöppel claim is not methodologically proven.

Keyword: *metrical pattern, line, performance, time*

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## INTRODUCTION

### *Background of Study*

The question which gives rise to this research here is the following: How poem recitation works in terms of the correlation with psychological limit on the duration of metrical lines in performance. In this thesis, there are two main focuses which are the metrical analysis of the poem and to test out the Frederick Turner and Ernst Pöppel claim (1999) that proposed lines of metrical poetry tend to measure approximately three second when the poem is performed aloud.

There are many previous researches that discuss the metrical theory. Mostly, this metrical theory is being used to indicate representation of stress in languages. By using the metrical theory, metrical analysis can be done thoroughly. Metrical or simply Meter means “measurement,” and in poetry, it refers to the repeating pattern of stressed and unstressed syllables in the lines of a poem.

First, the approach to stress proposed in Sound Pattern of English (Chomsky and Halle, 1968) does not contain enough information of the representation of stress, therefore many other researchers endorse “metrical tress” and metrical grids”.

Lieberman and Prince (1977) argue that 'trees' in metrical theory represent hierarchy and constituency therefore ‘trees’ are used to indicate stress; 'grids' represent hierarchy without constituency, while ‘grids’ are used to compute rhythm.

Hayes (1984) attempts to define the role of rhythm in stress. He uses mostly English data and establishes on the fundamental ideas presented in Lieberman and Prince (1977). Selkirk (1980) also suggests substantial modification of tree construction rules.

Metrical trees consent a very simple statement in the line of poem. The fundamental of metrical theory is 'stress' is not characterized with a certain feature like acoustic or articulatory property associated with stress, but it is characterized by a feature known as prominence. This prominence of metrical theory shows how the node is strong (S) and the other node is weak (W), then McMahon (2005) argues that stress was not an absolute but a relative property of syllables, these labels do not mean 'Strong' and 'Weak', but 'Stronger than an adjacent W' and 'Weaker than an adjacent S', respectively. (p. 121-122)

The claim from Frederick Turner who is known as literary critic and Ernst Pöppel who is known as neuroscientist, suggests metrical lines of universal metrical poem fit at three seconds when they are performed aloud: "Of more specific significance for our subject is the very exact correlation between the three-second LINE and the three-second auditory present." (Turner & Pöppel 1999, p. 20). Then, Fabb argues that Turner & Pöppel are wrong, in his research (2013) he mentions that there is no evidence for a psychologically derived time-based limit on metrical lines, and advising time is a characteristic of the performance of verse, not a textual characteristic.

The researcher proves whether Turner & Pöppel claim can be validated or not, and this study is believed to be a deeper stage of poetry analysis and it can give contribution to literary world.

## **REVIEW OF LITERATURE**

### *A. Metrical Feet and Metrical Pattern*

A poem that is known has a metrical pattern usually has a rule of fixed length, example an iambic pentameter has 10 syllables in length. In metrical poem, the term of "stressed syllable" and "unstressed syllable" means "strong syllable" and "weak syllable" which acts as prosodic feature on metrical poem. To determine the foot consistently employed per line of a poem, the common regular patterns of sound within 'Foot' in a poem are recognized as follow:

Table 2.1 Terms Used to Represent The Type of Foot

The Type of Foot	Description	Feature	Example
<b>Trochee</b>	2 Syllables	Strong - Weak	<i>Peacock</i>
<b>Iamb</b>	2 Syllables	Weak - Strong	<i>Relieve</i>
<b>Spondee</b>	2 Syllables	Strong - Strong	<i>Paul's cat</i>
<b>Dactyl</b>	3 Syllables	Strong - Weak - Weak	<i>Entropy</i>
<b>Anapest</b>	3 Syllables	Weak - Weak - Strong	<i>Illinois</i>

Therefore the 'number of feet' should also be determined. Here are the terms used to indicate the number of feet per line:

Table 2.2 Terms Used to Represent The Number of Feet Per Line

The Number of Feet	Description	Feature
<b>Monometer</b>	One foot	One stressed syllable per line
<b>Dimeter</b>	Two feet	Two stressed syllables per line
<b>Trimeter</b>	Three feet	Three stressed syllables per line
<b>Tetrameter</b>	Four feet	Four stressed syllables per line
<b>Pentameter</b>	Five feet	Five stressed syllables per line
<b>Hexameter</b>	Six feet	Six stressed syllables) per line
<b>Heptameter</b>	Seven feet	Seven stressed syllables) per line
<b>Octameter</b>	Eight feet	Eight stressed syllables) per line

Lethbridge & Mildorf (2003) note by far that the largest number of poems in English use accentual-syllabic metre which derives from metrical patterns of classical (Greek and Roman) poetry (p. 149). Thus it cannot easily be translated from classical languages into English, because classical languages metre depends on syllable length, and in English it depends on word stress.

The metrical system that is most generally used in English poetry is a line of iambic pentameter which consists of five feet, each of feet is an iamb, an unstressed syllable proceeds by a stressed syllable. In theory, the number of syllables should be identical on each line for the entire verse, but in most cases that a line can neglect one foot incomplete, as in varying the number of syllables as a whole.

## B. *Metrical Poetry*

Metrical poem is the recurrence of stressing sound in line usually with a distinctive rhythm, on the contrary, a poem that does not use regular meter is called free verse. Lethbridge & Mildorf (2003) define Metre is the measured arrangement of accents and syllables in poetry and Poetry employs the stresses that occur naturally in language utterance to construct regular patterns (p. 146). There are many different types of metrical foot measurements but the most common ones include example of the poem are the following:

Iamb	A man put on his hat And walked along the strand And there he met another man Whose hat was in his hand (Samuel Johnson's example of bad poetry)
Trochee	Hark, the hour of ten is sounding Hearts with anxious fears are bounding Hall of Justice crowds surrounding Breathing hope and fear (Gilbert and Sullivan, from: Trial by Jury)
Dactyl	Cannon to right of them Cannon to left of them Cannon in front of them Volley'd and thunder'd (From: Tennyson, Charge of the Light Brigade)
Anapaest	I conceive you may use any language you choose to indulge in without impropriety (Gilbert and Sullivan, from: Iolanthe)
Spondee	Bark bark bark bark Bark bark BARK BARK (T.S. Eliot, Book of Practical Cats)

## C. *Durations of Spoken Lines*

According to Turner and Pöppel (1999, p.10), English metrical line they claim has the average line duration of the following:

Pentameter 3.30 secs.

Seven-syllable trochaic line 2.50 secs.

Stanzas using different line lengths 3.00 secs., 3.10 secs.

Ballad meter (octosyllabic) 2.40 secs.

Previous research made by Fabb (2013), he declares that there is no psychological limit on the duration of metrical lines in performance based on the corpus study he did on the survey of 54 metrical English poems (1155 lines in total).

## **RESEARCH METHODOLOGY**

This study is conducted by using corpus analysis with quantitative approach by analyzing the metrical tree, metrical feet and metrical pattern in various distinguished read-aloud poems read by actors and poets and also to test out the Frederick Tuner and Ernst Pöppel claim.

In Part I, firstly Metrical Tree can be drawn on foot level base only on the poems that are found metrical from the data collection, then Strong and Weak on each node can be defined. Secondly, after drawing the entire metrical trees on foot level in one poem, the type of metrical feet can be defined by examining the features. In the last step, after knowing the dominant type of metrical feet on a poem, the metrical pattern can be assigned accordingly.

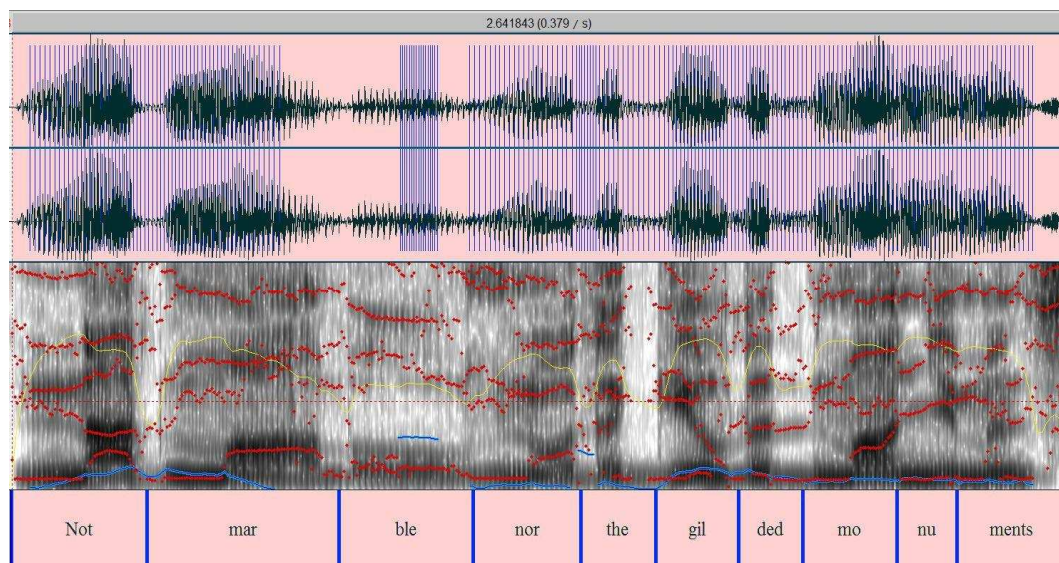
In part II, after the metrical poems which have been identified, the duration analysis is undertaken using Praat, the open source speech-analysis software developed by Paul Boersma and David Weenink, from the Institute of Phonetic Sciences, University of Amsterdam available at <http://www.praat.org>. The measurements are made by importing the sound files into Praat, then put the sound file in sound wave display, enlarge the view by zooming in the sound wave display up to 11 second view per display. After that, highlight the sound wave of the line to find the duration recited.

## DATA ANALYSIS AND RESEARCH FINDINGS

### *Data Analysis*

In this study, the data are consisted of all English poems with metric and free verse poems combined, therefore it is compulsory to separate both of them in order to test out Turner and Pöppel claim which “stanzas using different line lengths” last at 3.00, 3.10 seconds and pentameter last at 3.30 seconds when performed aloud.

The data are analyzed by deriving them into metrical tree to prove that poems are metrical. Those poems with free verse pattern are not put into metrical tree as they are necessary needed for further analysis. Here is the example of the sound wave display of Praat software:



The duration can be found on the top center of the sound wave display. Only two significant digits behind the number will be taken to be put into further analysis. It must be noted that this study does not deal with spectrogram, pitch, intensity, and formants reading as the researcher only focuses on finding the duration with Praat software.

### *Research Findings*

There are 18 English metrical poems with 314 lines in total and 10 of them are iambic pentameter (strict and loose), while others are in various meters. If they do take into account of an average duration of each metrical poem is exact 3.00 seconds, then it is an obvious false claim, as data analysis by the researcher shows that none of any poems that matches exactly 3.00 seconds. If it is based on the 3.00 seconds temporal window claimed by them, then there are 12 poems or 66.66% that fits the 3.00 seconds temporal window. The following table is the complete list on the findings of the Foot Dominance, Metrical Pattern, and Average Duration of The Metrical Poems:

Table 4.1 Foot Dominance, Metrical Pattern, and Average Duration of The Metrical Poems

<b>Title</b>	<b>Foot Dominance</b>	<b>Metrical Pattern</b>	<b>Average Duration</b>
Jenny Kissed Me	<u>Trochaic</u>	<u>Trochaic tetrameter</u>	2.33s
The Lake Isle of Innisfree	<u>Iambic</u>	<u>Loose Iambic Hexameter</u>	2.78s
We Wear the Mask	<u>Iambic</u>	<u>Iambic Tetrameter</u>	2.38s
Fire and Ice	<u>Iambic</u>	<u>Iambic Tetrameter</u>	2.11s
The Good-Morrow	<u>Iambic</u>	<u>Iambic Pentameter</u>	3.53s
The World is Too Much with Us	<u>Iambic</u>	<u>Loose Iambic Pentameter</u>	3.51s
Do Not Go Gentle into That Good Night	<u>Iambic</u>	<u>Iambic Pentameter</u>	3.21s
Ozymandias	<u>Iambic</u>	<u>Iambic Pentameter</u>	3.94s
“Hope” is The Thing with Feathers	<u>Iambic</u>	<u>Loose Iambic Trimeter</u>	1.72s



When You Are Old	<u>Iambic</u>	<u>Iambic Pentameter</u>	2.93s
The Road Not Taken	<u>Iambic</u>	<u>Loose Iambic Tetrameter</u>	2.34s
Sonnet 55	<u>Iambic</u>	<u>Iambic Pentameter</u>	2.90s
When I have Fears (That I May Cease to Be)	<u>Iambic</u>	<u>Loose Iambic Pentameter</u>	3.07s
To My Dear and Loving Husband	<u>Iambic</u>	<u>Loose Iambic Pentameter</u>	2.87s
I think I Should Have Loved You Presently	<u>Iambic</u>	<u>Iambic Pentameter</u>	2.53s
Miniver Cheevy	<u>Iambic</u>	<u>Loose Iambic Heterometer</u>	2.10s
My Last Duchess	<u>Iambic</u>	<u>Iambic Pentameter</u>	3.19s
I Heard a Fly Buzz - when I Died	<u>Iambic</u>	<u>Iambic Heterometer</u>	2.41s

The total percentage of shorter than 3.0 seconds is 62.73%, which is the highest percentage of other durations when they are compared. Turner and Pöppel notably claim that the psychological limit on the duration of metric line has 3 seconds of temporal window, so based on the findings, 62.73% fit to the theory, and 37.26% do not. Here is the complete percentage of durations in the Corpus of 314 Lines:

Table 4.2 Percentage of Durations in the Corpus of 314 Lines

<b>Shorter than 2.0 seconds</b>	14.96%
<b>Shorter than 2.5 seconds</b>	38.21%
<b>Shorter than 3.0 seconds</b>	62.73%
<b>Longer than 3.0 seconds</b>	37.26%
<b>Longer than 3.5 seconds</b>	18.78%
<b>Longer than 4.0 seconds</b>	9.87%

## **CONCLUSIONS**

Based on the researcher's data analysis, the researcher has done analyzing the corpus of recorded read-aloud poems by surveying 18 English metrical poems with 314 lines in total. 10 of them are iambic pentameter and others are in diverse meters and the major finding is the claim by Turner and Pöppel that a line of a “stanza using different line lengths” is about approximately 3.00s, 3.10s to be performed aloud does not match 100%, as well as “the pentameter fits 3.30 seconds” claim. Only 62.73% that fits to the 3 seconds of temporal window based on findings of average duration per line.

## **SUGGESTION**

Based on the conclusions stated, the following suggestions are needed to be considered in conducting the related research:

- 1) The researcher believes that the number of metrical English poems should be augmented to get more legitimated result. Therefore the result of this research can be more legitimate. In future, the researcher hopes that this corpus study can be continued by any linguistics researchers.
- 2) There should not be a claim that the lines of metrical poetry tend to measure approximately three second when the poem is performed aloud, as each of the performances by different reciters may be influenced by either human factor such as accent, gender and age, or poem factor such as theme.

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