Musical Evidence for Syllabification of Highly Moraic Structures in English

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Introduction

Hypotheses

1. There is a distinct division between those who syllabify diphthong + [l/r] (i.e. "fire") rimes as one or two syllables
2. This difference is systematic and therefore measurable and predictable
3. Using music as indication of syllabic intuition is a legitimate methodology

Background

- Previous work in metrics has assumed correlation between syllable and musical pitch (Dell & Halle, 2005)
- Linguistic rhythm may affect the musical rhythm in different European languages (Temperley & Temperley, 2011)

Methods

- Data was gathered from 12 American singer-songwriters, each composed and sang their own songs

Ben Folds	Billy Joel
James Taylor	Bruce Springsteen
Ryan Tedder	Suzanne Vega
Beck Hansen	Conor Oberst
Ingrid Michaelson	Bob Dylan
John Mayer	Stevie Wonder

- Studied words had stressed final syllables with the following rimes:
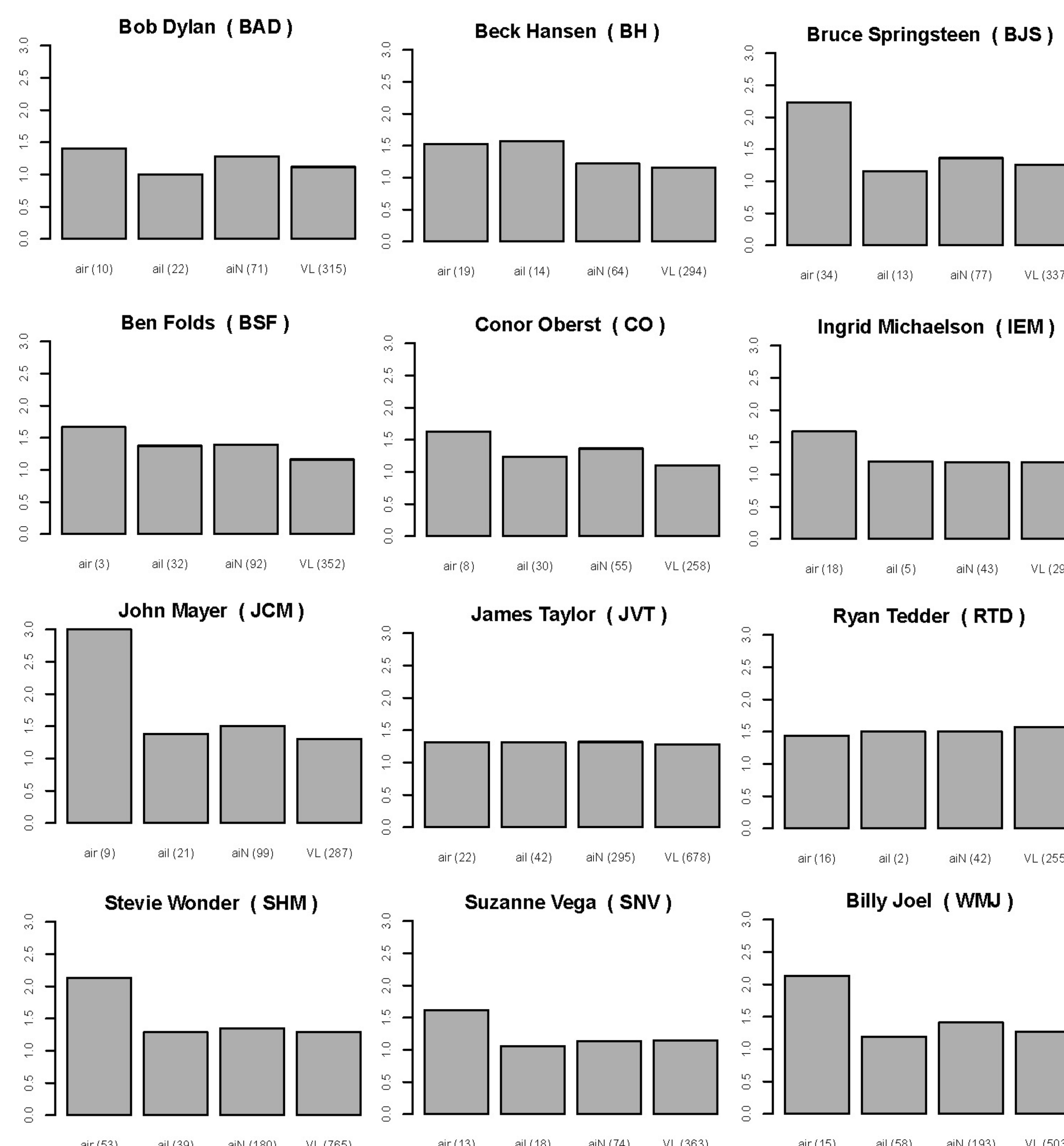
[aiɹ]	[ail]
[aɹ]	[iɹ]
[al]	[il]
[ain]	[aim]

target rimes in bold

- Poly-morphemic words & contractions were not included in the initial coding
- Two researchers listened to each token to determine how many pitches were sung
  - If judgements differed, the entire group listened to and discussed the token

Results

Average pitches per rime, by rime type and artist.

Some artists treat target and control rimes differently; others do not.
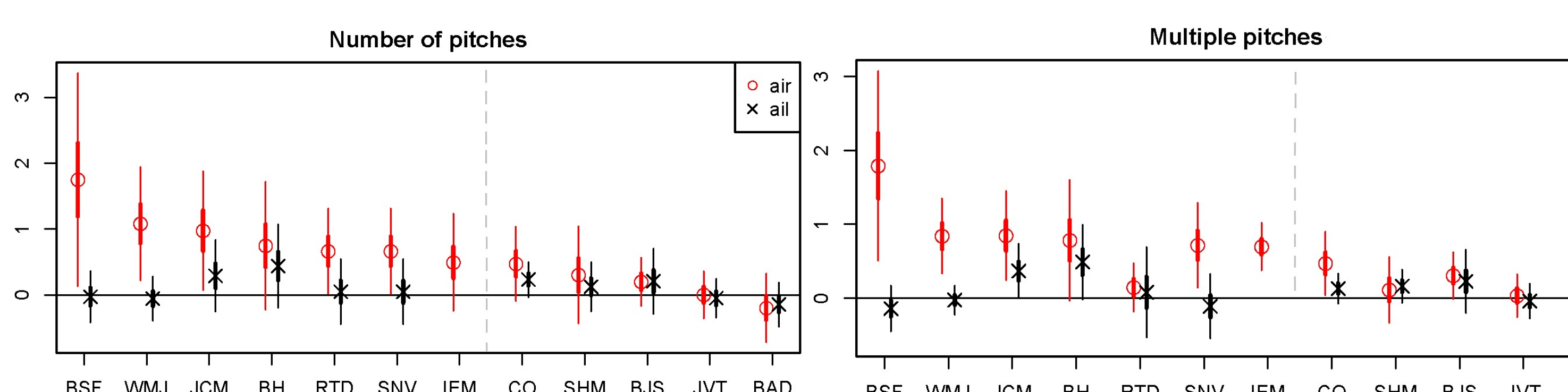

Figure 1 shows estimated additional number of pitches per rime for both [aiɹ] and [ail], categorized by artist.

Figure 2 shows the log odds of multiple pitches in each rime

Conclusion

o Some artists have a significant effect for target rimes while other artists do not.

o Clear evidence for two syllables [aiɹ]; not for [ail] rime type.

o The distribution of pitches supports the claim that candidate syllables containing more than two moras may be split accordingly (Lavoie, Cohn 1999).

- This description is speaker-dependent.

o Artists for whom there was a significant difference in number of pitches, there is also a trend based in sonority of the coda where The weak-to-nonexistent effects for [ail] vs. [air] could be due to the less sonorous coda

o Musical pitch is a reasonable estimator of individual's syllabification patterns.

Further Research

o Consideration of compositional text-setting as analogous measure of syllabification

o Comparison of acoustic response and explicit judgments of syllabification of targets rimes.

o Morphological/Orthographic influence on syllabification

Dell, F., & Halle, J. (2005, April 8). Comparing Musical Textsetting in French and in English Songs. *Typology of Poetic Forms.*
Lavoie, Lisa M. / Cohn, Abigail C. (1999): "Sesquisyllables of English: the structure of vowel-liquid syllables", In ICPhS-14, 109-112.
Sui, Y. (2013). *Phonological and Phonetic Evidence for Trochaic Metrical Structure in Standard Mandarin Chinese* (Unpublished doctoral dissertation). University of Pennsylvania.
Temperley, N., & Temperley, D. (2011, September). Music-Language Correlations and the "Scotch Snap". *Music Perception: An Interdisciplinary Journal, 29*(1), 51-63.
Wray, A. (1999). Singers on the Trail of "Authentic" Early Modern English: The Case of /æː/ and /ɛː/. *Transactions of the Philological Society, 9*, 185-211