

Speech Rhythm in L1, L2 and Learner Varieties of English

Workshop at BICLCE2017 (7th Biennial International Conference on the Linguistics of Contemporary English) in Vigo, 28-30 September 2017

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Speech rhythm has long been recognised as an important supra-segmental category of speech, yet its measurement, relevance and the theoretical soundness of the concept continue to be hotly debated. The arguably most widely supported approach considers speech rhythm to consist of a continuum ranging from (1) a syllable-timed pole, with relatively small differences in prominence between syllables, to (2) a stress-timed pole, with relatively large differences in prominence between syllables. Most L1 varieties of English are widely regarded to be more stress-timed than most L2 and learner varieties, and this is supported by a considerable amount of empirical evidence (e.g. Deterding 1994, 2001, Fuchs 2016, Gut 2005, Gut and Milde 2002, Low 1998).

Yet, upon closer inspection, many of the concepts underlying this research appear to be contested. For one, L1 varieties of English are themselves heterogeneous in their rhythm. There is, for example, regional variation, with some dialects spoken in the British Isles being more syllable-timed than others (Ferragne 2008, Ferragne and Pellegrino 2004, White and Matty 2007a, 2007b, White et al. 2007). Similarly, in L2 varieties, sociolinguistic differences such as that between acrolect and basilect might go hand in hand with a difference in speech rhythm. As for learner Englishes, while there is good evidence of the transfer of rhythmic characteristics from L1 to L2 (e.g. Dellwo et al. 2009, Gut 2009, Jang 2008, Sarmah et al. 2009), more research is needed to show that this has consequences in terms of foreign accent and accent recognition. More generally, research on speech rhythm would benefit from studies showing that quantitative measures of speech rhythm (so-called rhythm metrics) are perceptually relevant and psychologically 'real' in the sense that what is measured is reflected in a certain kind of percept. Finally, the very nature and reliability of these rhythm metrics has been discussed extensively, but arguably inconclusively, in the past years, with some researchers attempting to identify those duration-based metrics that are most reliable (White and Mattys 2007a, White et al. 2007, Wiget et al. 2010), others concluding that none of them are reliable (Arvaniti 2009, 2012, Arvaniti et al. 2008), and yet others suggesting metrics that focus on acoustic correlates of prominence other than duration, such as intensity (Fuchs 2016, He 2012, Low 1998), loudness (Fuchs 2014a), f₀ (Cumming 2010, 2011, Fuchs 2014b) and sonority (Galves et al. 2012).

In order to address these issues, this workshop aims to bring together researchers working on one or more of the following aspects:

- Applications of rhythm metrics that measure speech rhythm based on acoustic correlates of prominence other than duration
- Comparative tests of the validity and reliability of existing rhythm metrics

- Perceptual relevance and psychological reality of speech rhythm
- Relevance of speech rhythm in Second Language Acquisition/learner Englishes, e.g. its contribution to foreign accent as well as pedagogical approaches
- Differences in speech rhythm between varieties previously thought to be in the same "rhythm class"
- Sociolinguistic relevance of speech rhythm in indexing e.g. lectal differences or ethnic subvarieties within the same national variety of English

Apart from addressing one or more of the issues above, papers need be concerned with (a variety of) English or a language contact situation involving English (in keeping with the scope of the conference).

The workshop will consist of full papers and work in progress reports, which will be allotted 20 minutes for presentation (plus 10 minutes for discussion). The **deadline for submission of abstracts** (ca. 500 words, excluding title, references and keywords) **has been extended to 10 January 2017**. Notification of acceptance will be sent out by the end of January 2017. Abstracts should be sent to rfuchs@hkbu.edu.hk .

References

- Arvaniti, Amalia. 2009. Rhythm, timing and the timing of rhythm. *Phonetica* 66(1/2): 46–63.
- Arvaniti, Amalia. 2012. The usefulness of metrics in the quantification of speech rhythm. *Journal of Phonetics* 40: 351–373.
- Arvaniti, Amalia, Tristie Ross, and Naja Ferjan. 2008. On the reliability of rhythm metrics. *Journal of the Acoustical Society of America* 124(4): 2495.
- Dellwo, Volker, Francisco Gutiérrez Diez, and Nuria Gavaldà. 2009. The development of measurable speech rhythm in Spanish speakers of English. In *Actas de XI Simposio Internacional de Comunicacion Social*, Santiago de Cuba, 594–597.
- Cumming, Ruth E. 2010. The language-specific integration of pitch and duration. PhD thesis. University of Cambridge.
- Cumming, Ruth E. 2011. Perceptually informed quantification of speech rhythm in pairwise variability indices. *Phonetica* 68(4): 256–277.
- Deterding, David. 1994. The rhythm of Singapore English. In *Proceedings of the fifth Australian international conference on speech science and technology*, ed. Roberto Togneri, 316–321. Perth: Uniprint.
- Deterding, David. 2001. The measurement of rhythm: A comparison of Singapore and British English. *Journal of Phonetics* 29: 217–230.
- Ferragne, Emmanuel. 2008. Etude Phonétique des Dialectes Modernes de l'Anglais des Iles Britanniques: Vers l'Identification Automatique du Dialecte. PhD thesis. Université Lumière Lyon 2.
- Ferragne, Emmanuel, and François Pellegrino. 2004. A comparative account of the suprasegmental and rhythmic features of British English dialects. *Actes de Modelisations pour l'Identification des Langues*, Paris, 121–126.
- Fuchs, Robert. 2014a. Integrating variability in loudness and duration in a multidimensional model of speech rhythm: Evidence from Indian English and British English. In *Proceedings of speech prosody 7*, Dublin, ed. Nick Campbell, Dafydd Gibbon, and Daniel Hirst, 290–294.

- Fuchs, Robert. 2014b. Towards a perceptual model of speech rhythm: Integrating the influence of f₀ on perceived duration. In *Proceedings of interspeech 2014*, ed. Haizhou Li, Helen Meng, Bin Ma, Eng Siong Chng, and Lei Xie, Singapore, 1949–1953.
- Fuchs, Robert. 2016. *Speech Rhythm in Varieties of English: Evidence from Educated Indian English and British English*. Singapore: Springer.
- Galves, Antonio, Jesus Garcia, Denise Duarte, and Charlotte Galves. 2002. Sonority as a basis for rhythmic class discrimination. In *Proceedings of speech prosody 2002*, Aix-en-Provence, 323–326.
- Gut, Ulrike. 2005. Nigerian English prosody. *English World-Wide* 26(2): 153–177.
- Gut, Ulrike. 2009. *Non-native speech. A corpus-based analysis of phonological and phonetic properties of L2 English and German*. Frankfurt: Peter Lang.
- Gut, Ulrike, and Jan-Torsten Milde. 2002. The prosody of Nigerian English. In *Proceedings of the speech prosody 2002 conference*, ed. Bel Bell and Isabelle Marlien, 367–370. Aix-en-Provence: Laboratoire Parole et Langage.
- He, Lei. 2012. Syllabic intensity variations as quantification of speech rhythm: Evidence from both L1 and L2. In *Proceedings of the 6th international conference on speech prosody*, Shanghai, 22–26 May 2012, ed. Qiuwu Ma, Hongwei Ding, and Daniel Hirst, 466–469. Shanghai: Tongji University Press.
- Jang, Tae-Yeoub. 2008. Speech rhythm metrics for automatic scoring of English speech by Korean EFL learners. *Malsori Speech Sounds* 66: 41–59.
- Low, Ee Ling. 1998. *Prosodic Prominence in Singapore English*. PhD thesis. University of Cambridge.
- Sarmah, Priyankoo, Divya Verma Gogoi, and Caroline Wiltshire. 2009. Thai English. Rhythm and vowels. *English World-Wide* 30(2): 196–217.
- White, Laurence, and Sven L. Mattys. 2007a. Calibrating rhythm: First language and second language studies. *Journal of Phonetics* 35(4): 501–522.
- White, Laurence, and Sven L. Mattys. 2007b. Rhythmic typology and variation in first and second languages. *Segmental and Prosodic Issues in Romance Phonology* 282: 237–257.
- White, Laurence, Sven L. Mattys, Lucy Series, and Suzi Gage. 2007. Rhythm metrics predict rhythmic discrimination. In *Proceedings of the 16th international congress of phonetic sciences*, Saarbrücken, 1009–1012.
- Wiget, Klaus, Laurence White, Barbara Schuppler, Isabelle Grenon, Oleysa Rauch, and Sven L. Mattys. 2010. How stable are acoustic metrics of contrastive speech rhythm? *Journal of the Acoustical Society of America* 127(3): 1559–1569.