

# Prosody in a dynamic systems account

## *Speakers:*

Simon Ritter & Doris Mücke (Köln), November 14, 9:30am-10:30, Ling Seminar Room (Building 14, room 2.15/16)

## *Abstract:*

The literature is rife with reports on variation in prosodic patterns. On the one hand, categorical variation in the form of a probabilistic mapping of what has been described as prosodic categories to communicative functions has been found. For example, one pragmatic function is expressed by a certain pitch accent type in the majority of cases, yet also other pitch accent types can be used for this function. On the other hand, a great deal of continuous variation in the prosodic categories has been shown. For example, the pitch excursion of one pitch accent type might vary systematically in association with a pragmatic function. Furthermore, it has been suggested that categorical and continuous variation work in symbiosis and that both can be exploited by speakers flexibly. In this talk, we present data from 27 native German speakers marking focus structure prosodically. We propose a dynamic systems account to the categorical and continuous variation in the pitch accent patterns (Ritter, Mücke and Grice submitted). In doing so, we aim to contribute to the understanding of phonetics and phonology as one system – a view that resonates with a broader perspective of the mind as a dynamic system (Gafos and Benus 2006; Spivey and Dale 2006; Port 2002). Since prosodic marking of focus has been reported to involve multiple scales, as an outlook, we sketch some thoughts on how other acoustic and articulatory dimensions could be included in the model.

## *References & suggested readings:*

Two short introductory texts about the hypothesis of the mind as a dynamic system:

- Spivey, M. J., & Dale, R. (2006). Continuous dynamics in real-time cognition. *Current Directions in Psychological Science*, 15(5), 207–211.  
<https://pdfs.semanticscholar.org/d6c7/2c99e39b6455c8f5ca1e7c53d97d402692d8.pdf>
- Port, R. F. (2006). Dynamical Systems Hypothesis in Cognitive Science. In *Encyclopedia of Cognitive Science* (pp. 1027–1032). Nature Publishing Group.  
<http://www.cs.indiana.edu/%7Eport/pap/Port.dynamic.hypothesis.in.cog.sci.2002.pdf>

A text probably many people already know. An application of dynamic systems to the phenomenon of incomplete neutralisation and transparent vowels in Hungarian vowel harmony:

- Gafos, A. I., & Benus, S. (2006). Dynamics of Phonological Cognition. *Cognitive Science*, 30(5), 905–943. [https://doi.org/10.1207/s15516709cog0000\\_80](https://doi.org/10.1207/s15516709cog0000_80)

A preprint of our submitted paper about the intonation analysis:

- Ritter, S., Mücke, D., & Grice, M. (submitted). The dynamics of intonation: categorical and continuous variation in an attractor-based model. <https://doi.org/10.31234/osf.io/qkm6b>