

Stylistic rhythmic patterns and musicality

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What are the prosodic units that are relevant for the characterization of prosodic styles? Do those units resemble musical units? We transcribed 20 minutes of speech for 5 Russian public figures that are associated with different personae (e.g., ingénue, diva) and are commonly known for their distinct prosodic styles. Similar to (Calder & Popova 2014), we found that one of the most stylistically prominent prosodic units are rhythmic patterns: several IPs, sometimes divided by a short (filled) pause that form a rhythmic unit akin to a musical phrase. Each pattern is characterized by a particular placement or realization of accents. The occurrence of final lengthening, filled pauses, filler words, creaky or breathy voice is best explained in terms of those rhythmic patterns.

We then hypothesized that musical aptitude and musical experience might be correlated with the ability of participants to recognize similar rhythmic patterns and to form expectations about the end of a rhythmic pattern that they have heard before. We designed stimuli based on the patterns from the transcripts mentioned above and recruited 20 Russian native speakers to participate in the experiment. Musical experience and musical aptitude were defined as in (Boll-Avetisyan et al. 2017).

We found that musical aptitude as measured by the Musical Ear Test, unlike a measure of productive musical experience, was strongly correlated with the ability of participants to recognize similar stylistic rhythmic patterns and to form expectations about patterns.

The majority of the studies of speech rhythm do not look beyond the IP level; we claim that rhythmic units relevant for the studies of prosodic styles often comprise multiple IPs that form rhythmic patterns akin to musical phrases. Together with our experimental evidence that perception of such rhythmic patterns is correlated with musicality, our data suggests a close relation between stylistic prosody and music.

References: • Boll-Avetisyan, N., A. Bhatara & B. Höhle. 2017. Effects of musicality on the perception of rhythmic structure in speech. *Laboratory Phonology* 8(1). • Calder, J. & D. Popova. 2014. Dimensions of rhythm: The multi-layered nature of rhythmic style. *University of Pennsylvania Working Papers in Linguistics* 20(2), article 3.