

# Zooming into manner: the uneven structure of speed adverbs in Estonian

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**Introduction.** Language is unevenly structured reflecting the cognitive biases of human beings in processing the world. Of the many asymmetries detected in language, the spatial asymmetry in motion events, the goal-over-source asymmetry, is well known (Ikegami, 1987; Kopecka & Vuillermet, 2021). Other possible asymmetries in motion events have received less attention and, thus, little is known about the (a)symmetries within the domain of manner across its diverse dimensions (Cardini, 2008; Stosic, 2019). To zoom into manner, speed as a core dimension of manner is analysed in this study with a specific focus on Estonian speed adverbs (i.e., adverbs which express how fast or slowly the event progresses). The study is based on research showing that the vocabulary of speed expressions in terms of adjectives and adverbs in different languages is larger and more diverse for fast motion than for slow motion (Dixon, 2004; Hallonsten Halling, 2018), suggesting the predominance of fastness.

**Aim and hypotheses.** The study aims to establish the size and internal structure of the inventory of speed adverbs in Estonian (a Finno-Ugric and satellite-framed language). We hypothesise that fast adverbs (adverbs expressing fast motion; e.g. *kiiresti* 'fast') are more numerous and frequent than slow adverbs (adverbs expressing slow motion; e.g. *aeglaselt* 'slowly'), and that simple adverbs (one-stem-adverbs, such as *kiiresti* 'fast') of fast motion are more prone to meaning intensification than slow adverbs. That is, compared to simple adverbs of slow motion, adverbs of fast motion should occur more frequently as complex adverbs in which the meaning of the main adverb is enforced by reduplication (e.g. *kiiresti-kiiresti* 'fast-fast') or prefixation (e.g. *superkiiresti* 'super fast').

**Data and method.** We first created a list of all possible speed adverbs in Estonian using the dictionary-lookup method. Then, all these adverbs (N = 248) were independently rated for their meaning (expressing speed-related information or not) by the research group members. 87 adverbs were unanimously rated as speed adverbs. Of these, 42 were simple adverbs and the rest were complex adverbs. Because the resulting list of speed adverbs was not comprehensive, additional corpus searches were performed in the Estonian National Corpus 2021 with all the adverbs to establish their possible prefixes, reduplications and compound forms. After complementing and cleaning the data, the list of adverbs contained 95 simple and 283 complex adverbs (compounds, reduplications and prefixed adverbs). A frequency analysis was conducted.

**Results.** Fast adverbs were more frequent and diverse than slow adverbs both across simple and complex adverbs. Of the 95 simple adverbs, 22 were slow (adverb's mean frequency per million 9.8; sd 20.3) and 73 were fast (mean frequency 7.0; sd 25.3). Regarding complex adverbs, 67 were slow (mean frequency 0.6; sd 2.8) and 216 fast adverbs (mean frequency 0.1; sd 0.2). 39 unique reduplications occurred, mainly expressing fast motion (N = 28). Prefixed adverbs (N = 170) yielded a total of 46 unique prefixes co-occurring with fast adverbs and 21 prefixes co-occurring with slow adverbs. As for meaning intensification, and compared to slow adverbs, fast adverbs were more likely to be prefixed and less likely to be reduplicated. Conversely, slow adverbs were more likely to be reduplicated and less likely to be prefixed.

**Conclusion.** The type and token frequency of fast adverbs is larger than that of slow adverbs, suggesting the predominance of fast motion in language. This is in accord with findings of psychology indicating the predominant processing of fast motion.

## References

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