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K.-H. Best	Univ. Göttingen (Germany)	kbest@gwdg.de
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Glottometrics 48, 2020

Abstracts

Emmerich Kelih, Reinhard Köhler, Gabriel Altmann

Obituary Peter Grzybek (1957 – 2019)

Sergey Andreev

Syllabic Identity of Verse Lines in Russian Long Poems: Skinner's Hypothesis

Abstract. The article is devoted to the analysis of distances between identical lines in 10 Russian long poems. The identity is measured by the number of motifs which are modeled in each line from syllable sequences. The data obtained were used to test Skinner's hypothesis and to analyze the distribution of distances between identical lines. Exponential function and exponential function with added 1 were used to fit the distribution of distances between lines. The results proved Skinner's hypothesis and showed good fitting of the formulas.

Kateřina Pelegrinová, Gabriel Altmann

Concept Realization in Texts

Abstract. The study proposes a model for the rank-frequencies of individual semantic classes of nouns, verbs, adjectives and adverbs in three English novels analyzed by N. Yesyenko (2009), and compares the ranks using the Kendall-test.

Andrij Rovenchak, Valentin Vydrin

Syllable Frequencies in Manding: Examples from Periodicals in Bamana and Maninka

Abstract. We study the rank–frequency distribution of syllables in texts from written press in Bamana and Guinean Maninka, two closely related languages from the Manding group of the Mande family in West Africa. Five issues of widely circulating newspapers are analyzed in each language. The Bamana texts are written in a Roman-based alphabet without marking of tones, while Maninka texts are published in the N'ko alphabet comprising a superficial notation of tones. For the sake of comparisons, the Maninka data are also compiled for syllables with tonal distinctions neglected. The obtained rank–frequency distributions of syllables are fitted using two discrete distributions, Jain–Poisson and positive negative binomial, as well as the continuous Yule distribution. In most cases, a satisfactory fit was

achieved, with the determination coefficient $R^2 > 0.95$ and discrepancy coefficient $C < 0.02$. The relation of the Yule distribution and Zipf's law with respect to the number of syllable types is discussed.

Andrew Wilson

Lengths and L-motifs of Rhythmical Units in Formal British Speech

Abstract. The lengths of rhythmical units (as defined by Karl Marbe in 1904) were identified, and their frequencies counted, in twelve complete texts from the Aix-MARSEC database of formal spoken British English. The texts all belonged to the genre of current affairs commentary. L-motifs (i.e. maximal monotone non-decreasing sequences) of the rhythmical unit lengths were also identified, and the frequencies of the different L-motif lengths were counted. The frequencies of both rhythmical unit lengths and L-motif lengths were modelled using a continuous approach with the Zipf-Alekseev function. Good qualities of fit were obtained for both kinds of unit on all texts. The parameters a and b of the Zipf-Alekseev function for the rhythmical unit lengths (though not for the L-motif lengths) were also found to be related in the form of a further Zipf-Alekseev function. Further research should aim to extend the application of the motif approach to rhythmical units.

Anastasia Gnatciuc, Hanna Gnatchuk

Identification of English Styles on the Basis of Parts of Speech: A Case of Principal Component Analysis and Factor Analysis

Abstract: The present study is concerned with the identification of English styles in terms of D. Biber's proposed dimensions (1988). In this study this identification is relied upon the data about the parts of speech. Moreover, we are interested in detecting the relationships between the styles (belles-lettres, official, news scientific and miscellaneous styles), on the one hand, and their subsections (editorial, romance, adventure, learned, reviews, etc.) in the Brown Corpus in terms of three dimensions: "involved (interactive) versus informational production", "description versus reporting" and "narrative versus non-narrative". The Brown Corpus texts were accessed in Python 3 (environment Anaconda) by means of the tagged algorithm. The results were statistically processed in R-Studio Program.

Xiaojin Zhang, Haitao Liu

Function Words in Male and Female Authors: A Diachronic Investigation of Modern Chinese Prose

Abstract. From the perspective of a blended micro- and macro-analysis, the present study mainly investigates the function words in modern Chinese prose since 1912 to 2019. First, we

choose the cumulative frequencies of function words; this index is related to *h-point* as a quantitative indicator. We compare the cumulative frequencies of function words in 50 male and 50 female authors' books. The diachronic trend of the cumulative frequency of function words clearly shows that the proportion of male writers is higher than that of female writers. To be specific, the males use more numerals while females use more personal pronouns. Based on the visualized graphs, the macro-developmental trends of function words in modern Chinese prose from 1912 to 2019 are finally presented.

Natália Kolenčíková, Gabriel Altmann

Analysis of Prepositions in *Marína* (Slovak Romantic Poem)

Abstract. In the article, the frequency of individual prepositions in the Slovak romantic poem *Marína* written by Andrej Sládkovič (1846), the distribution of the individual more abstract meanings within these prepositions and the distribution of individual prepositions to the more general concepts are analyzed. Every assumption is derived and tested by using the Menzerathian function and the Zipf-Alekseev function.